

# American Museum of Natural History

CENTRAL PARK, NEW YORK CITY.

(77th Street and 8th Avenue.)







ANNUAL REPORT OF THE TRUSTEES,

ACT OF INCORPORATION,

CONSTITUTION, BY-LAWS AND LIST OF MEMBERS

FOR THE YEAR 1887-8.

PRINTED FOR THE MUSEUM.







#### THE

# AMERICAN MUSEUM OF NATURAL HISTORY,

CENTRAL PARK, NEW YORK CITY.

(77th Street and 8th Avenue.)

ANNUAL REPORT OF THE TRUSTEES,

ACT OF INCORPORATION,

CONSTITUTION, BY-LAWS AND LIST OF MEMBERS

FOR THE YEAR 1887-8.



NEW YORK:

PRINTED FOR THE MUSEUM.

-------

1888.



# BOARD OF TRUSTEES.

MORRIS K. JESUP. BENJAMIN H. FIELD. ADRIAN ISELIN. J. PIERPONT MORGAN. D. JACKSON STEWARD. C. VANDERBILT. JOSEPH H. CHOATE. PERCY R. PYNE. JOHN B. TREVOR. JAMES M. CONSTABLE. WILLIAM E. DODGE. \* JOSEPH W. DREXEL. ANDREW H. GREEN.

ABRAM S. HEWITT. CHARLES LANIER. HUGH AUCHINCLOSS. OLIVER HARRIMAN. D. O. MILLS. CHAS. G. LANDON. H. R. BISHOP. ALBERT S. BICKMORE. THEODORE ROOSEVELT. OSWALD OTTENDORFER. J. HAMPDEN ROBB.

# OFFICERS AND COMMITTEES

FOR 1888.

### President.

MORRIS K. JESUP.

## Vice-Presidents.

D. JACKSON STEWARD. JAMES M. CONSTABLE.

# Secretary.

ALBERT S. BICKMORE.

#### Treasurer.

J. PIERPONT MORGAN.

#### Executive Committee.

JAMES M. CONSTABLE, Chairman.

D. JACKSON STEWARD. C. VANDERBILT.

H. R. BISHOP.

OLIVER HARRIMAN.

The President and Secretary, ex-officio.

# Auditing Committee.

CHARLES LANIER.

ADRIAN ISELIN.

WILLIAM E. DODGE.

#### Finance Committee.

J. PIERPONT MORGAN. D. O. MILLS.

PERCY R. PYNE. ·

# PROF. ALBERT S. BICKMORE,

Curator of the Ethnological Department, and in charge of the Department of Public Instruction.

# PROF. R. P. WHITFIELD,

Curator of the Geological, Mineralogical and Conchological Departments.

# L. P. GRATACAP,

Assistant Curator of the Geological Department.

# J. A. ALLEN,

Curator of the Department of Ornithology and Mammalogy.

# \* DR. J. B. HOLDER,

Curator of the Department of Invertebrate Zoölogy, Fishes and Reptiles.

# JENNESS RICHARDSON,

Taxidermist.

A. WOODWARD,

Librarian.

WILLIAM WALLACE,

Clerk.

<sup>\*</sup> Deceased.



# ANNUAL REPORT OF THE TRUSTEES

# FOR THE YEAR 1887.

# To the Patrons, Fellows and Members of the Museum:

The Treasurer's account shows the receipts of the year to have been \$63,890.71, and the expenditures \$61,434.64, of which \$31,128.75 was for necessary expenses, which include salaries, fixtures, repairs, labor, etc. The sum of \$30,305.88 was for additions to the collections. Of the total receipts, the city has contributed the sum of \$14,989.20.

Many large and important additions have been made during the past year, which include the Lawrence Collection of American birds, numbering 12,000 specimens; a collection of 4,000 Brazilian birds; the Elliot Ornithological Library (of about 1,000 volumes), accompanied by his celebrated collection of hummingbirds, which is next to the largest known in the world.

There has been placed in the Geological department a skeleton of a Mastodon, which forms one of the most striking and attractive features in this department of the Museum.

Towards securing the above-mentioned, striking and valuable collections, the Museum is especially indebted to Mrs. Robert L. Stuart, Mr. Cornelius Vanderbilt, Mr. Percy R. Pyne, Mr. James M. Constable and Mr. Joseph W. Drexel, for their generous contributions.

Especial mention should be made of the addition to the Collection of Bird Groups, mounted in characteristic attitudes, and surrounded by natural accessories, the gift of our devoted friend, Mrs. R. L. Stuart.

The annexed abstracts from the Curators' reports show other important additions, both by purchase and donation.

During the past year, at the expense of our President and Mr. James M. Constable, an expedition was sent to Montana for buffalo, which did not result in securing the desired specimens, but a large number of skeletons of buffalo and skins and skeletons of other large mammals was obtained, which prove most valuable additions to the Zoölogical department.

As is shown by our Treasurer's report, there have been two patrons and fifteen life members added to the membership. The annual membership now amounts to five hundred and three members, paying regularly their yearly subscriptions. It would be very desirable if this source of income could be *largely increased*. It is one of the best methods to supplement the annual deficiency, which the Trustees each year, for a long time past, have so generously supplied.

The attendance of visitors during the past year have been 160,941, an increase of 34,636 over 1886; an average of 511 per day.

The collections of the Museum are now valued at the sum of about \$600,000, and it is but right to say that of this large amount your Trustees have been the main contributors. The necessity of adding to these collections increases as time goes on, and it is hoped that more of our citizens will take an earnest and increased interest in our Museum, and so aid the Trustees in making this institution what it should be and what our city has a right to expect—the great museum of the country.

As was mentioned in the last annual report, the act to provide means for enlarging the present building became a law last year.

At a meeting of the Board, held December 22d, Messrs. J. C. Cady & Co. were appointed by the Trustees the architects of the additional structure, and the whole matter relating thereto was placed in the hands of a building committee. Plans for the said structure are now being carefully considered, and it is hoped that during this year the foundation will be laid for the new building. Additional exhibition space is imperatively demanded, and any longer delay will result in serious injury to the Museum and its collections.

# DEPARTMENT OF PUBLIC INSTRUCTION AND ETHNOLOGY.

[Under the charge of Prof. A. S. BICKMORE.]

In accordance with the contract between the State Department of Public Instruction and the Museum, for providing free instruction to the teachers of the common schools and to the Normal Schools of the State, I have prepared and delivered twenty lectures in this city, and have visited and lectured at each of the Normal Schools.

The large attendance upon the lectures describing the countries I had visited last summer induced me to go again to Europe, at my own personal expense, and travel throughout Egypt, Palestine, Turkey, Greece and Italy; and in order to gain personal experience for future lectures, I journeyed throughout Belgium, Holland, Denmark, Sweden, Southern Norway and Scotland, and arrived in New York after an absence of six months

As the small lecture room at the Museum is only calculated to seat two hundred and seventy-five persons, and only one hundred more can be crowded into it, the Trustees hired Chickering Hall for the autumn course of lectures upon the following countries, viz: Egypt, Palestine, Turkey, Greece, Italy, Scotland, India, China, Japan and the Pacific Islands. This hall, after reserving space for the apparatus, contained eleven hundred and ninety-six seats. The largest number present was 1,430, and the average attendance 1,329, so that 133 persons on an average had to stand or sit on the steps of the aisles at every lecture.

This is the only series of ten lectures in the whole course of eighty, extending over four years, that could have been delivered outside the walls of the Museum, for the reason that this instruction to teachers, to be by them repeated to their pupils, must be illustrated not only by photographic views of specimens, but must be immediately followed by a careful examination of the costly collections on exhibition in our halls.

The growth of the attendance upon the instruction given by this department is shown by the following statement of the number present at the opening lectures of the Autumn Courses for the past four years, viz:

October	18,	1884,			•	22 I
"	10,	1885,				324
	16,	1886,				358
"	8,	1887,				1,285

The largest number present previous to the beginning of the course just finished was 504, and the sudden increase from this figure to an average attendance of 1,329 is a gratifying proof of

the rapidly growing interest among progressive teachers in this

illustrative method of communicating knowledge.

The teachers attending this instruction are shown by their signatures, obtained at the closing lecture, to come from the cities along the Hudson as far north as Sing Sing, from beyond Jamaica, on Long Island, and from all parts of Staten Island, as well as from New York City and Brooklyn.

The success that has attended our efforts to aid the teachers of the public schools in this vicinity is attracting attention in all parts of the State, and the next annual meeting of the School Commissioners from all the counties in this State will be held in

our institution.

# GEOLOGICAL AND CONCHOLOGICAL DEPARTMENTS.

[Under the charge of Prof. R. P. WHITFIELD.]

PALÆONTOLOGICAL COLLECTIONS.—There has been much work done in this department during the year in permanent labels. More than 2,800 labels of this class having been provided; and of these more than 1,600 are written labels. About 500 of these are type and figured specimen labels, bearing citations of publication. At the end of 1886, labeling had been carried on, on the west side of the hall to near the end of the Eocene, and from the Coal Measures to that point permanent labels had been provided. At the present time this permanent work has been carried along to the end of the American series, and considerable done to the European collections. This latter work has been taken in hand, owing to the nature of the slips with the specimens being such as to incur danger of misplacement by the opening of the case doors.

Early in the year, the type and figured specimens of Lamellibranchiate fossils, for several years in Prof. Hall's possession, were sent to the Museum. These were all labeled, and a large quantity of them placed on exhibition. The remainder are in drawers in the Attic, but will be put in place as soon as space can

be provided for them.

In May of this year the Museum authorities authorized the purchase of a skeleton of *Mastodon giganteus* from Messrs. Ward & Howell. This was done, and the skeleton placed in the centre of the Geological Hall. This skeleton is probably the best of the kind now known, certainly the best mounted, and it now forms the most attractive and interesting object in the Museum. Two fine lots of fossil fish, from the Eocene beds of Wyoming, were also added during the year. Other donations and purchases may be found mentioned in the appendix.

MINERALOGICAL COLLECTION.—There has been several important additions to this collection during the year, principally by purchase, mostly of prominent or attractive specimens. There is yet a need of many more large and attractive specimens, in order to make it what it should be for a public exhibition collection.

CONCHOLOGICAL COLLECTION.—Good progress has been made in labeling this collection. Nearly all specimens on exhibition have been provided with labels, and most of those not so provided are determined and only awaiting the writing of labels. The collection is yet to be numbered and recatalogued, and some undetermined species identified. It now presents a very good appearance, and bids to be a very useful collection, judging from the number of persons seen identifying shells from it.

Want of Space.—The lack of space for exhibition in the two last-named collections becomes constantly more apparent and pressing, and also to a great extent in the Palæontological collection. Of this latter collection several hundred types and figured specimens, lately received from Albany, a part of the Hall collection, is at present stored in drawers in the Attic until other specimens now in the cases can be removed to make room for them.

ECONOMIC COLLECTION.—A large amount of material pertaining to this collection, consisting of building stones, etc., now on hand, remains in boxes, or is otherwise stored away and out of sight for want of space to exhibit it, while that now ranged along the stairs and in the passage ways is constantly being injured for the same reason.

USE OF THE COLLECTIONS BY VISITORS AND STUDENTS.—The constant increase of interest in, and use of the collections in the department by visitors, and particularly by students, is one of the noticeable features of the halls. To find people in the rooms with text books, peering into the cases, is an almost daily sight, while numbers are often seen with note books and specimens. making comparisons and copying labels. As the labeling progresses this feature is the more and more noticeable, and the number of young people and teachers who bring specimens for identification and criticism is constantly on the increase. In fact, it is frequently the case on Saturdays that half of the day is occupied in giving information in this way to visitors for this especial purpose. This, I think, is one of the strongest evidences of the growing use of the Museum and its collections, and must in time create a greater interest in the objects of the institution and sympathy with its purposes. There is, however, one very important need of the collections in this department, in the direction of Vertebrate Palacontology, remains of large fishes, reptiles and mammals, a want which ought to be supplied with every opportunity which may offer. The extreme interest which the skeleton of the Mastodon excites is an indication of this necessity, and it seems to me that expenditures in this direction would be of greater benefit to the Museum than of those of any other department of natural objects.

## DEPARTMENT OF MAMMALS AND BIRDS.

[Under the charge of Mr. J. A. ALLEN.]

MAMMALS.—The additions to the collection of Mammals are numerous and important. They include 15 mounted skins, 2 mounted skeletons, 490 unmounted skins, 35 unmounted skeletons, and 370 skulls. The mounted specimens include a male, a female, a suckling young, and a skeleton of the rare West Indian Seal (Monachus tropicalis), previously represented by only two specimens in all the museums of the world. Also several Monkeys, a very rare North American Shrew (Atophyrax bendirei), and a skeleton of an American Tapir (Tapirus americanus).

In my last year's report attention was called to the great need of a Study Collection of North American mammals. The formation of such a collection is now well under way. Over 200 beautifully prepared skins, accompanied by their skulls, have already been received, and orders still out are being gradually filled.

The event of the year, however, is the Museum Expedition to the Bad Lands of Montana, undertaken by Messrs. D. G. Elliot and Jenness Richardson, at the expense of Mr. Morris K. Jesup and Mr. James M. Constable, in search, primarily, of Bisons. While the expedition was only partly successful as regards its principal purpose, it was eminently so in a general sense, the objects gathered including fine series of skins and skeletons of the Pronghorn Antelope, Mule Deer, Coyote, and of several of the smaller mammals of the region visited. Two Bison skins were obtained, and about 10 skeletons, besides parts of many others, and about 75 skulls. It was found that the small herd of Bisons reported as occurring in the region visited had been exterminated by Indians and cowboys before the expedition arrived. Besides the specimens of the now nearly extinct Bison obtained by the Museum Expedition, a head and a skeleton have been received during the year, the latter being the gift of Robert Harris, Esq., of this city.

Further additions entitled to special mention is a collection of 15 skeletons and 52 skulls of Brazilian mammals, added by purchase; 72 skins, with their skulls, from Arizona, presented; a Mountain Goat (Mazama montana), and a Siberian Sheep (Ovis nivicola), also by purchase; finally, the skeleton of the celebrated Elephant "Samson,"—the largest Asiatic Elephant ever brought to America—presented by Mr. W. W. Cole, of this city. This

valuable specimen is now in Professor Ward's hands for maceration and mounting, and probably a year will elapse before it will be ready for exhibition.

Material has also been gathered for a number of groups of small mammals, two of which are well under way, and will doubtless be ready for exhibition early in May, with the additional bird groups.

The total number of mammals in the collection is about as follows: Mounted and on exhibition, about 1,000; skeletons, mounted and on exhibition, 125; unmounted skeletons, 60; skulls, 500; unmounted skins, 680; alcoholic specimens, 65. Total, 2,430. Of the unmounted skins, about 450 may be considered as belonging distinctively to the Study Collection; the remaining 230 are intended more especially for mounting, and accordingly are stored in the basement of the Museum, being preserved in vats, in an antiseptic solution. A portion of these may be considered as duplicates, available for exchange; but fully one hundred of them are specimens which should be mounted for the exhibition series.

In view of the fact that the larger mammals of North America are being rapidly exterminated, the Elk, the Mountain Sheep, and several of the other larger species being as surely doomed as the Bison, now already practically extinct, it seems highly desirable that the friends of the Museum should provide the means for securing groups of these interesting animals, representing both sexes and various ages, before it becomes too late to obtain them. The expedition sent out this year has secured ample and admirable material for the proper representation of the Pronghorn and the Mule Deer. The Elk, the Black-tailed Deer, the Mountain Sheep, the Mountain Goat, the Moose, and Caribous, should be secured first, and about in the order named, to which should be added the Bison, which latter should be obtained without any delay. At present these species are all inadequetly represented, not only by too few examples, but by, in many cases, poorly preserved and badly mounted specimens, by no means doing credit to an institution which may soon be the leading Natural History museum of America. Such groups, if mounted in natural attitudes and with proper accessories, would prove pleasing to the eye and eminently instructive, and in line with the tendency of museums to break away from the too long time-honored and traditional method of arranging in long, monotonous rows, stiffly and otherwise inartistically, mounted effigies of animals.

The work of completing the Study Collection of North American mammals should also be carried vigorously forward, the expense of this being comparatively trifling, and its importance great.

BIRDS.—The year 1887 will ever be a memorable one in the history of the collection of birds. Any one of the four principal events of the year would serve to mark it as one of importance.

First is the acquisition, by purchase, of the Lawrence Collection of American birds, numbering about 12,000 specimens and 4,000 species, including about 300 original types of species described by our veteran ornithologist, Mr. George N. Lawrence, of whose lifework the collection is a result. The collection is eminently a reference collection, containing, as it does, about two-thirds of all the known species of American birds, carefully determined by the highest authorities. It thus forms, so far as it goes, a dictionary of American birds, and especially of the birds of the tropical portion of America.

Second, the addition of the Elliot Collection of Hummingbirds, numbering about 2,000 specimens, representing about 400 species. Besides being one of the largest and most valuable collections of its kind in the world, it has special value from having formed the basis of Mr. Elliot's monograph of this group of birds, entitled "A Classification and Synopsis of the Trochilidæ," published by the Smithsonian Institution in 1879. This collection also includes many types of species.

Third, the addition, by purchase, of 4,000 bird skins, several hundred birds' eggs, and several hundred bird sterna, from the Province of Matto Grosso, Brazil, collected by Mr. Herbert H. Smith. This collection numbers about 300 species, many of them of special interest, and not previously represented in our collection.

Fourth, the addition to the exhibition collection of a series of bird groups, eighteen in number, each consisting of a pair of birds, with its nest and eggs, mounted in characteristic attitudes, and surrounded by natural accessories, each group being a facsimile reproduction from nature of the vegetable and other surroundings of the nest. These groups, modeled after the plan of the bird groups in the British Museum at South Kensington, are the first of the kind to be placed on exhibition in America. They have been prepared with fidelity and skill, for which great credit is due to Mrs. E. S. Mogridge and her brother, Mr Minturn, formerly at the South Kensington Museum, for the modeling of the plants, and to Mr. Jenness Richardson, of the Museum, for the skillful designing of the groups and the effectiveness of the general results.

The efficiency of the bird department has been further greatly enhanced by the addition to the Library, by purchase, of Mr. D. G. Elliot's ornithological library, consisting of about 1,000 volumes, carefully selected with respect to their utility as indispensible works of reference. This addition provides the Museum with an excellent ornithological library, surpassed by very few similar libraries in this country.

During the year a very important change has been made in the method of storing the unmounted skins, through the adoption for this purpose of moth-proof tin cans, about 125 of which have been ordered. One-half of them have been received and are already in use. They give entire satisfaction, rendering every specimen easily accessible, and affording perfect protection against dust and insect pests, thus insuring the perfect preservation of the specimens.

The additions to the collection have been wholly unpreceden-In addition to the collections already mentioned, 2,235 specimens have been received from Dr. E. A. Mearns, U. S. A., collected in Arizona; about 150 have been purchased; 219 have been collected by Mr. Richardson; 67 were obtained by the Museum Expedition; 60 have been received by donation from various sources; and about 250 have been purchased, including 76 mounted birds, for the North American collection. A further addition. worthy of special note, is a skeleton of the Great Auk, recently received as a gift from the United States National Museum. The total additions number about 21,000 bird skins, of which 200 are mounted; about 600 birds' eggs, with many nests, mostly South American; about 300 sterna, and 12 skeletons. About 300 birds previously in the collection have been remounted and placed on exhibition, making about 500 mounted birds added to the exhibition series during the year.

The total number of birds now belonging to the Museum may be safely placed at about 39,000. (Adding Mr. Sennett's collection, of about 5,000 specimens, the total number of birds now in the Museum is about 44,000.) The collection of nests and eggs is second in size and importance to that of the United States National Museum, numbering about 20,000 specimens. Mr. Sennett's collection, equally available for use, contains about 7,000, making our resources in this department equal to about

27,000 specimens.

In the last report attention was called to the need of the further increase of the North American Study Collection of birds. Notwithstanding the many additions of the present year, this part of the collection has been very little improved, and about 10,000 specimens should be added to it in order to give it a creditable standing in comparison with similar collections in other museums. This matter may be considered as now especially urgent, since an opportunity is open to the friends of the Museum to purchase, ready at hand, a collection which would not only admirably meet this deficiency, but give the American Museum unquestionably the first place, as regards its ornithological department, among the museums of this country—a position it can never take while this defect remains.

The reception and care of the large accessions has prevented much progress in cataloguing and labeling the collections, which work, however, has been continued at every opportunity. Work on the group collection has taken the greater part of the time of Mr. Richardson and his assistant. The preparation of many specimens received in the flesh (mostly from the Central Park Menagerie, through Mr. W. A. Conklin, including 22 mammals and 20 large birds) has also required considerable time, which, with Mr. Richardson's two months' absence with the Museum Expedition, has prevented much progress in mounting the rapidly accumulating material. As already stated, about 300 birds have been remounted, and 73 mounted from fresh specimens, the greater part of the latter being for the groups. Nineteen bird groups and two mammal groups are well under way, and will be finished in time for exhibition at the Annual Reception.

In May a Bulletin (Vol. II., No. 1) was issued for this department, consisting of 39 pages of text and six plates. It contained two papers, entitled as follows: I. The West Indian Seal (*Monachus tropicalis* Gray). II. Note on Squalodont Remains from

Charleston, S. C.

# DEPARTMENTS OF INVERTEBRATE ZOÖLOGY, FISHES AND REPTILES.

[Under the charge of Dr. J. B. HOLDER.]

One of the most valuable acquisitions for the Department of Invertebrate Zoölogy is the series of marine invertebrates received last year, and now examined and distributed in suitable glass jars. Each species has been named, and suitable labels attached, on which is placed the "Museum number," referring to the permanent catalogue of the department, and also a "Collection Guide." The latter is added, in lieu of a printed guide, for the ready use of students and others desirous to consult specimens for identification or otherwise.

These marine invertebrates consist of echinoderms, actinarians

and other low forms, and crustaceans.

Notwithstanding the smallness of these creatures, the collection is of great significance. Many of the species are new to science. All have been dredged from our North Atlantic coast, at depths ranging from a few fathoms to several miles. Here are numbers of sea creatures for the first time seen, and in several groups species are multiplied surprisingly.

As no other opportunity is offered here for the inspection or study of these rare forms, the Curator has endeavored to present every convenience for the purpose. The entire history of each species, with proper nomenclature, is entered in the "guide" of the department, for the use of students, and it is gratifying to know that many constantly avail themselves of the privilege.

Many of the forms which were dredged off our coast have sur-

prised even marine zoölogists, and have proved of exceeding interest to all.

Several forms of soft corals, gorgonias, etc.—beautiful often in color as well as form—were hitherto known only in warmer waters. The deep sea off our coast has lately been invaded to the depth of between three and four miles. Fishes of most singular form, as well as the lower animals, are among the products of the dredge. Several species of the interesting sea anemones of the greater depths are among our series. Marvelous forms of crab-like and shrimp-like creatures also. Our hitherto meagre lists of crustaceans and the lower forms, as indigenous to the North Atlantic shores, is largely increased in species, and additional to the previously acquired collections of invertebrate animals in our cabinets, the present new acquisitions will prove eminently serviceable to those who desire to continue the study of them.

During the year a considerable increase has been made in the collections of reptiles and batrachians, mostly those of our native species. Col. Nicolas Pike, of Brooklyn, has aided materially by adding fresh and typical examples of serpents, turtles and batrachians. A notable example of his work in the interest of our Museum is a series, two species, of our native salamanders, in which is shown the life-history, from the egg to the perfect form; each day's growth is shown by individuals. A series of adult specimens is also shown in connection, exhibiting the species.

Several other naturalists have materially contributed to increase the collections of indigenous creatures. Mr. M. S. Crane, of New Jersey, and Mr. Arnold Kurth deserve most honorable mention for their disinterested services in collecting for this department. Being students of zoölogy, the examples presented by them have the character of well-identified and well-prepared objects for study. Mr. Scott, of Arizona, and several friends of the Museum elsewhere—in India, in Canada—have added most acceptable specimens to our cabinets. The Curator has also been enabled to contribute largely to the several branches through personal attention, and it has been a source of gratification that without pecuniary expenditure his departments have exhibited a respectable and continued increase.

The crowded state of our collections in the exhibition halls entirely excludes those belonging to the Department of Reptiles. The superb series of North American fishes is handsomely exhibited in the lower floor, and there are also on exhibition there fine

examples of invertebrate forms.

The entire alcoholic collection, embracing invertebrates and reptiles and fishes, is not exposed to public view; cases are temporarily placed on the upper hallway, and the latter are arranged therein. Special collections of indigenous species of reptiles and

batrachians, and of fishes and invertebrates, are arranged and classified in the Curator's room, being especially designed for aiding students who apply for instruction in our native objects.

# LIBRARY.

#### [Under the charge of Mr. A. WOODWARD.]

The additions to the Library this year are principally by purchase and donations. The books and pamphlets received have amounted to: volumes, 1,519; numbers and parts, 1,172; pamphlets, 1,057.

Вy	Application (Librarian)	88	Vols.	234 No	s. and part	s. 39	Pamphlets.
•	Exchange (Bulletin)			306	"	70	7.
	" (Duplicates)	17	"	3	"	52	"
	Donations			73	"	53	"
	Purchase	,169	"	73 556	"	53 843	"
	Total	,519		1,172		1,057	

These additions include, beside the usual exchanges, the Ornithological Library of D. G. Elliot, containing nine hundred and eighty-seven (987) volumes, six hundred and seventy-five (675) pamphlets, purchased through the liberality of Mr. Cornelius Vanderbilt and Mr. Percy R. Pyne.

This Library is one made of well-selected books, rare and valuable, ranking third of its kind in the United States. Among them is to be found a complete set of the Ibis, Stray Feathers, Gould's Birds of Australia, Gould's Monograph of the Trochilidæ, Buller's Birds of New Zealand, Malherbe's Monographie des Picideés, Dresser's History of the Birds of Europe, Vieillot's Analyse d'une nouvelle Ornithologie, and many others of the same character.

Notable among the donations are:

The bequest of the late Dr. James Knight, New York City, seventy-two bound volumes on Botany.

Eighty-one (81) volumes added to the Conchological Library,

the gift of Miss Catharine Lorillard Wolfe.

Mr. Geo. Hopkins, of Troy, N. Y., a large collection of the Scientific American and supplement, forming about forty (40) volumes.

The Library has been presented with a very fine copy of the work on the Mastodon giganteus of North America, by John C. Warren, M.D. This copy formerly belonged to Dr. Warren's brother. At his death it came into the possession of Miss M. A. Warren, who requested Mr. J. Warren to present it to some institution, who kindly favored us.

The growth of the Library is in every way encouraging and gratifying. Five years ago it had only three thousand (3,000)

volumes on the shelves; now it has about ten thousand (10,000) volumes and several thousand pamphlets.

Number of volumes in Library,	Bound.	Unbound.	Nos. and Parts.	Pamphlets.
January 1st, 1887	5,092	1,390	2,497	4,201
Added during the year	1,313	206	1,172	1,057
Total to date	6,405	1,596	3,669	5,258

Bulletin No. 8, issued December 28th, 1886; No. 1, Vol. II., May, 1887. Of these and the other Bulletins during the year 1887, from January 1st to December 31st, one thousand and eighty-six (1,086) copies were distributed; eight hundred and thirty-six (836) distributed in the United States and Canada; the remainder, two hundred and fifty (250) in Europe, India and Australia.

Three hundred and sixteen (316) volumes bound this year, through the generosity of the Trustees and Miss Catharine Lorillard Wolfe.

The demand for books has been very great this year, more so than any previous year. Most of the books asked for were found in the Library. I am requested by the Trustees to render all assistance possible to the members of the Museum, students and any others who may be interested in natural history, and desirous of obtaining information relating to books, and to make the Library as attractive and useful as possible.

188	7.		
		TO 0TO 70	
10	Lecture Department,	12,910 73 8,189 80	
	Labor	6,130 49	
	Coal,	1,067 27	
	Printing (general),	429 46	
	"Annual Report,	248 80	
	Supplies,	603 60	
	Stationery,	93 38	
	Postage,	252 72	
	Expressage,	344 38	
	Reception,	512 05	
	Labels,	83 35	
	Car Fare,	95 53	
	Traveling Expenses,	53 12	
	Custom House "	7 46	
	Sundries,	25 20	
	Poison,	9 83	
	Advertising,	36 75	<b></b>
	Printing Guides,	34 75	\$31,128 76
	Repairs,	560 23	
	Fixtures.	861 43	*
	Printing Bulletins,	1,195 30	
	Contingent Fund for Building,	380 46	
	Expenses on Lieut. Emmon's Collection,	259 00	
	Interest on "Dr." Balances,	101 04	3,357 46
Eni	OOWMENT,		34,486 22
	Wolfe Fund for Books Purchased,	493 79 260 60	
	Library Department,	579 97	
	"Prof. Whitfield,	2,000 00	
	" D. G. Elliot,	9,750 00	
	Geological Department,	46 00	
	" for Mastodon,	3,150 00	
	Mineral Department,	63 28	
	Bird "	2,923 56	
	" G. N. Lawrence, -	1,800 00	
	Mammal ''	1,205 83	
	Fish and Reptile Department,	165 85	
	Insect Department,	32 <b>2</b> 9	
	Ward's Contracts,	535 50	-60 4-
	Bird Groups,	3,941 75	26,948 42
	Total Expenditures,		\$61,434 64
	Feb. 8.—Balance on hand carried down,		2,456 07
	•		\$63,890 71

1887.		
By Balance brought forward (from 1886 account),		\$1,267 15
	\$14,989 <b>2</b> 0	φ1,20/15
"State Supt. of Public Instruction,	8,000 00	
"Annual Members,	,	
	5,030 00	
Sale of Guides,	240 00	
Confecting Fermits (birds),	16 00	
interest on invested runds, (	300 00	
Dodge bequest, )	•	
" Vanderbilt bequest,	2,000 00	30,575 20
ENDOWMENT.		\$31,842 35
From Mrs. R. L. Stuart, \$5,000 00		
C. Vanderbilt, 5,000 00		
Percy R. Pyne, 5,000 00 James M. Constable, 1,000 00		
Percy R. Pyne, 5,000 00 James M. Constable, 1,000 00 Joseph W. Drexel, 500 00	\$16,500 00	
Mrs. R. L. Stuart, for groups, 1887,	2,348 36	
Hugh Auchincloss,	500 00	
J. F. Laubat,	1,000 00	
Wm. D. Sloane,	1,000 00	
From LIFE MEMBERS as follows:		
Mrs. Alexander Cameron, \$100 00		
John J. Wysong, 100 00 Elliot F. Shepard, 100 00		
Elliot F. Shepard, 100 00 J. H. Shoenberger, 100 00		4 1 1 1
Archibald Rodgers 100 00		_
H. C. Van Post, 100 00 H. M. Braem, 100 00		
H. M. Braem, 100 00		4.1
Dr. C. M. Bell, 100 00 G. Manheimer, 100 00		
H. A. V. Post, 100 00		•
Julius Wadsworth, 100 00		
A. Richards, 100 00		
R. Keppler, 100 00 Edward Tunk, 100 00		
Edward Tunk, 100 00 Miss C. O. Jones, 100 00	1,500 00	
From the TRUSTEES as follows:	1,300 00	
Morris K. Jesup, \$500 00 James M. Constable, 500 00		
Wm E. Dodge roo co		
Percy R. Pyne, 500 00		
Adrian Iselin, 500 00		•
D. O. Mills, 500 00 Joseph W. Drexel, 500 00		
H. R. Bishop, 500 00		
C. Vanderbilt, 500 00		
Chas. Lanier, 500 00		
Chas. G. Landon, 500 00 J. Pierpont Morgan, 500 00		
J. Pierpont Morgan, 500 00 Oliver Harriman, 500 00		
John B. Trevoi, 500 00		
Oswald Ottendorfer, 500 00		
Abram S. Hewitt, 500 00		
Hugh Auchincloss, 500 00 Joseph H. Choate, 500 00		
Benj. H. Field, 200 00	9,200 00	32,048 36
		\$63,890 71

Feb. 8.—By balance brought down from 1887 account, \$2,456 07

[E. & O. E.] NEW YORK, February 13, 1888.

J. PIERPONT MORGAN, Treasurer.

# INCORPORATION.

#### AN ACT

TO INCORPORATE THE

# AMERICAN MUSEUM OF NATURAL HISTORY,

Passed April 6, 1869.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION I. John David Wolfe, Robert Colgate, Benjamin H. Field, Robert L. Stuart, Adrian Iselin, Benjamin B. Sherman, William A. Haines, Theodore Roosevelt, Howard Potter, William T. Blodgett, Morris K. Jesup, D. Jackson Steward, J. Pierpont Morgan, A. G. P. Dodge, Charles A. Dana, Joseph H. Choate, and Henry Parish, and such persons as may hereafter become members of the corporation hereby created, are hereby created a body corporate, by the name of "The American Museum of Natural History," to be located in the City of New York, for the purpose of establishing and maintaining in said city a Museum and Library of Natural History; of encouraging and developing the study of Natural Science; of advancing the general knowledge of kindred subjects, and to that end of furnishing popular instruction and recreation.

§ 2. Said Corporation shall have power to make and adopt a Constitution and By-Laws, and to make rules and regulations for the admission, suspension, and expulsion of its members, and their government, the number and election of its officers, and to define their duties, and for the safe keeping of its property, and, from time to time, to alter and modify such Constitution, By-Laws, Rules, and Regulations. Until an election shall be held pursuant to such Constitution and By-Laws, the persons named

in the first section of this Act shall be, and are hereby declared to be the Trustees and Managers of said Corporation and its property.

- § 3. Said Corporation may purchase and hold, or lease any real and personal estate necessary and proper for the purposes of its incorporation, provided they shall not hold real estate which shall exceed one hundred thousand dollars in value.
- § 4. Said Corporation shall possess the general powers, and be subject to the restrictions and liabilities prescribed in the Third Title of the Eighteenth Chapter of the First Part of the Revised Statutes.
  - § 5. This Act shall take effect immediately.

STATE OF NEW YORK,
OFFICE OF THE SECRETARY OF STATE.

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

Given under my hand and seal of office at the City of Albany, this fourteenth day of April, in the year one thousand eight hundred and sixty-nine.

D. WILLERS, JR., Deputy Secretary of State.

# CONSTITUTION

OF THE

# AMERICAN MUSEUM OF NATURAL HISTORY,

IN THE CITY OF NEW YORK.

### ARTICLE I.

This Corporation shall be styled the American Museum of Natural History.

# - ARTICLE II.

The several persons named in the charter, and such others as they may add to their number, which shall not exceed twenty-five in all at one time, shall be the Trustees to manage the affairs, property, and business of the Corporation, and in case of the death, accepted resignation, or removal from the State of any Trustee, a new Trustee shall be elected to fill his place by the remaining Trustees; but no election of a Trustee shall be held except at a quarterly meeting of the Trustees, on written notice of not less than one week, specifying that such election is to be held, and the vacancy which is to be filled; and every election of Trustees shall be by ballot, and no person shall be deemed to be elected a Trustee unless he shall receive the votes of at least three-fourths of the Trustees present.

#### ARTICLE III.

The Trustees shall meet quarterly, on the second Monday of every February, May, August and November, at an hour and place to be designated, on at least one week's written notice from the Secretary, and shall annually, at the quarterly meeting in February, elect the officers and committees for the ensuing year. They shall also meet at any other time to transact special business on a call of the Secretary, who shall issue such call whenever

requested so to do, in writing, by five Trustees, or by the President, and give written notice to each Trustee of such special meeting, and of the object thereof, at least three days before the meeting is held.

#### ARTICLE IV.

The officers of the said Corporation shall be a President, a First and Second Vice-President, a Secretary, and a Treasurer, an Executive Committee, an Auditing Committee, and a Finance Committee, all to be elected from the Trustees. All these officers shall hold their offices for one year, and until their successors shall be elected.

The election of officers shall be by ballot, and the persons having a majority of the votes cast, shall be deemed duly elected.

#### ARTICLE V.

The President, and in his absence the First or Second Vice-President, shall preside at all the meetings of the Museum and of the Trustees.

The Secretary shall keep a record of the proceedings of the Trustees, of the Executive Committee, and of the Auditing Committee, and shall preserve the seal, archives, and correspondence of the Museum, shall issue notices for all the meetings of the Trustees, and attend the same.

The Treasurer shall receive and disburse the funds of the Museum. He shall keep the accounts of the Museum in books belonging to it, which shall be at all times open to the inspection of the Trustees. He shall report in writing, at each quarterly meeting of the Trustees, the balance of money on hand, and the outstanding obligations of the Museum, as far as practicable; and shall make a full report at the annual meeting of the receipts and disbursements of the past year, with such suggestions as to the financial management of the Museum as he may deem proper.

#### ARTICLE VI.

The Executive Committee shall consist of seven, of whom the President and Secretary shall be two. The five members of the

Executive Committee elected in February, 1887, shall forthwith draw lots for terms of one, two, three, four and five years, respectively, and the terms for which those drawing the two, three, four and five years, respectively, were elected, are hereby extended to cover those periods; and hereafter at each annual election one member of the Executive Committee shall be elected to serve for five years. They shall have the control and regulation of the Collections, Library, and other property of the Museum; and shall have power to purchase, sell, and exchange specimens and books, to employ agents, to regulate the manner and terms of exhibiting the Museum to the public, and generally to carry out in detail the directions of the Trustees; but the Executive Committee shall not incur any expense or liability for the Museum exceeding two thousand dollars at one time, or exceeding, in all, ten thousand dollars, in the interval between the quarterly meetings of the Trustees, without the express sanction of the Trustees.

# ARTICLE VII.

The Auditing Committee shall consist of three, and it shall be their duty to examine and certify all bills presented against the Corporation; and no bills shall be paid unless first approved in writing by at least two members of this Committee.

#### ARTICLE VIII.

The Finance Committee shall consist of three, including the Treasurer, and it shall be their duty to take charge of and invest the funds of the Museum in its name, and to take all proper measures to provide means for its support.

## ARTICLE IX.

A majority of the Trustees for the time being shall constitute a quorum for the transaction of business, but five Trustees meeting may adjourn and transact current business, subject to the subsequent approval of a meeting at which a quorum shall be present.

#### ARTICLE X.

By-Laws may from time to time be made by the Trustees, providing for the care and management of the property of the Corporation; and for the government of its affairs.

Such By-Laws, when once adopted, may be amended at any meeting of the Trustees, by a vote of a majority of those present, after a month's notice in writing of such proposed amendment.

### ARTICLE XI.

The contribution of \$1,000 or more to the funds of the Museum, at any one time, shall entitle the person giving the same to be a Patron of the Museum, who shall have the right in perpetuity to appoint the successor in such patronship.

The contribution of \$500, at one time, shall entitle the person giving the same to be a Fellow, who shall have the right to appoint one successor in such fellowship.

No appointment of a successor shall be valid unless the same shall be in writing, endorsed on the certificate, or by last will and testament.

The contribution of \$100, at one time, shall entitle the person giving the same to be a Life Member.

Any person may be elected by the Trustees to either of the above degrees, who shall have given to the Museum books or specimens, which shall have been accepted by the Executive Committee, to the value of twice the amount in money requisite to his admission to the same degree, and the President and Secretary shall issue diplomas accordingly under the seal of the Museum.

The Trustees may also elect Honorary Fellows of the Museum in their discretion.

#### ARTICLE XII.

No alterations shall be made in this Constitution, unless at a regular quarterly meeting of the Trustees; nor by the votes of less than two-thirds of all the Trustees; nor without notice in writing of the proposed alteration, embodying the amendment proposed to be made, having been given at a regular meeting.

# BY-LAWS.

I.

Patrons giving \$1,000 are each entitled to I Subscriber's Ticket, 5 Complimentary Season Tickets, and 10 Tickets for a single admission.

Fellows, giving \$500, are each entitled to 1 Subscriber's Ticket, and 10 Tickets for a single admission.

Life Members, giving \$100, are each entitled to 1 Subscriber's Ticket, and 5 Tickets for a single admission.

Annual Members, paying \$10 yearly, are each entitled to 1 Subscriber's Ticket, and 2 Tickets for a single admission.

[Note.—A Subscriber's Ticket admits two persons to the Museum every day except Sunday, and to all Receptions and Special Exhibitions, and may be used by any member of the Subscriber's family.

The Single Admission Tickets admit the bearers to the Museum on reserve days (Mondays and Tuesdays) and are issued to Subscribers for distribution among friends and visitors.]

#### II.

Any Trustee who shall fail to attend three consecutive Regular Quarterly Meetings of the Board, shall cease to be a Trustee, unless excused by the Board.

#### III.

No gentleman shall hereafter be eligible to the position of a Trustee who shall not be a "Patron" of the Museum, unless by a unanimous vote of a quorum of the Board—excepting Trustees ex-officio—nor be eligible unless his name shall be presented by the nominating committee at a Regular Quarterly Meeting prior to the meeting at which said election shall take place.

#### IV.

No indebtedness shall (except for current expenses) be incurred by the Trustees of the Museum, nor by any of its committees, officers, or employees, unless there are at the time sufficient moneys in the Treasury to pay the same.

V.

All bequests or legacies, not especially designated, shall hereafter be applied to the *Permanent Endowment Fund*, the interest only of which shall be applied to the use of the Museum, as the Board shall direct.

# LIST OF ACCESSIONS, 1887.

# DONATIONS.

#### LIBRARY.

Through MISS CATHARINE LORILLARD WOLFE.

Bourguignat, J. R. Souvenirs d'une exploration scientifique dans le Nord de l'Afrique. 1868.

Bourguignat, J. R. Malacologie de l'Algérie. 2 vols. 1863-64. Brocchi, G. Conchiologia foss., Subapennia. 2 vols., and Atlas. 1843. Böttger, O. Systematisches Verzeichniss der lebenden Arten der Gattung Clausilia, 1878.

Carpenter, P. P. Catalogue of the collection of Mazatlan Shells col-

lected by F. R. Warrington. 1855-57.

Carpenter, P. P. Report on the present state of our knowledge with regard to the Mollusca of the West Coast of N. A. 1857.

Fisher and Crosse. Études sur les Mollusques terrestres et fluviatiles. Mission Scientifique au Mexique. 2 vols. 1870-80.

Jeffreys. British Conchology. 5 vols. 1862-79.

Hidalgo, J. G. Moluscos marinos de España Portugal y las Baleares.

3 vols. 1870–84. Hidalgo, J. G. Hojas Malacologicas. 1870. Hidalgo, J. G. Catalogo iconografico y descriptivo de los Moluscos terrestres de espan Portugal y las Baleares. 1870-72.

Issel, A. Malacologia del Mare rosso ricerche Zoologiche e paleontologiche. 1869.

Kobelt, W. Illustrirtes Conchylienbuch. 2 vols. 1878. Kobelt, W. Fauna der Nassauischen Mollusken, 1871. Kobelt, W. Fauna Molluscorum extramarinorum Japoniæ.

Kreglinger, C. Systematisches Verzeichniss der in Deutschland lebenden Binnen-Mollusken. 1870.

Locard, A. Études sur les variations malacologiques d'après la faune vivante et fossile de la partie Centrale du bassin du Rhone. 2 vols. 1881.

Martens, E. v. and B. Langkavel. Donum Bismarckianum. Eine Sammlung von Südsee-Conchylien. 1871.

Martens, E. v. Die Binnenmolusken Venezuelas. 1873.

Martens, E. v. Mollusken in Möbius's Beitrage zur Meeres fauna der Insel Mauritius und der Scychellen.

Monterosato, T. F. Enumerazione e Sinonimia delle Conchiglie Mediterranee. 1870

Nevill, H. Enumeratio Heliceorum et Pheumonopomorum insu 7 Ceylon, etc. 1871.

Paulucci. Matériaux pour servir à l'étude de la faune malacologique terrestre et fluviatile de l'Italie. 1878-79

Servain, G. Historie malacologique du lac Balaton en Hongrie. 1881.

Strebel, H. Beitrag zur Kenntniss der Fauna Mexikanischer, Land und Susswasser-Conchylien. 5 vols. 1873-82. Troschel, F. H. Das Gebiss der schnecken zur Bergründung einer nat. classification. 2 vols.
Wollaston, T. V. Testacea Atlantica, or the Land and Fresh-water Shells of the Azores, Madeiras, Salvages, Canaries, Cape Verdes. and St. Helena. 1878. Annals and Magazine of Natural History. 16 vols. Journal de Conchyliologie. 23 vols. 1862-83. Bequest of the late Dr. JAMES KNIGHT, M.D., New York city. Paxton's Flower Garden. 1853. Loudon's Encyclopædia of Plants. 1855. Lindley's Theory of Horticulture. Second edition. 1859. John's Gardener's Dictionary. 1846. The Flower Garden. 1840. The Kitchen and Fruit Gardener. 1844. Popular Treatise on Vegetable Physiology. 1842. Knight, James. Improvement of Delicate Health by natural means. 1868. Comstock, J. L. An Introduction to the Study of Botany. Third edition. 1835. Nuttall, T. An introduction to Systematic and Physiological Botany. 1827. Rafinesque Medical Flora of the United States. 2 vols. 1828-1830. McIntosh, C. Green House. 1838. Williams, B. S. The Orchid-Grower's Manual. 1885. Ward, N. B. On the Growth of Plants in closely glazed cases. Chapin, L. D. The Vegetable Kingdom; or Hand-Book of Plants and Fruits. 1843. Davies, C. C. Natural History of Selborne. 1878. Schleiden, M. J. Poetry of the Vegetable World. 1853. Loudon, Mrs. Gardening for Ladies and Companion to the Flower Garden. 1845.
Grindon, L. H. The Sexuality of Nature. 18
Miller, P. The Gardener's Dictionary. 1752.
Morton I The Nature and Present 15 The Sexuality of Nature. 1868. Morton, J. The Nature and Property of Soils. Fourth edition. 1842. Harrison, J. The Floricultural Cabinet and Florist's Magazine. 13 vols. 1834-1845. The Cultivator. 4 vols. 1834.
Barton, W. P. C. Flora of North America. 3 vols. 1821–1823. Hooker, W. J. Exotic Flora. 3 volumes. 1823–1827. Hooker, W. J. The Journal of Botany. 4 volumes. 1834–1842. Leuchars, R. B. A Treatise on Hot Houses. 1851. Lindley, J. The Vegetable Kingdom. 1853. Buist, R. The American Flower Garden Directory. 1839. Burnett, G. T. Outlines of Botany. 1835. Johnson, C. The Ferns of Great Britain. 1855. The American Agriculturists. 1869. Gray, Asa. Manual of Botany. 1856. Botanical Illustrations. 5 volumes. The Annals of Horticulture. 2 vols. 1846, 1847. The Florist, Fruitist, and Garden Miscellany. 4 volumes. 1852-

J. B. SNIFFEN, New York City.

Japi Oaye. Vol. V, No. 1. 1876. "Ethnography and Philology of the Hidatsa Indians."

HON. A. S. HEWITT, New York City.

Official Gazette of the United States Patent Office. Vols. XXXVII, 13; XXXVIII, XXXIX, XL, XLI, 1-12. 1886, 1887. Index. Vols. XXXV, XXXVI, XXXVIII, XXXIX. 1886, 1887.

Supplement. 1887.

Annual Report Commissioners of Patents. 1886.

Alphabetical List of Patentees and Inventions. 1886, 1887.

HON. R. P. FLOWER, New York City.

War of the Rebellion. Series I-Vol. XVII, Part II; XVIII, XIX. 1887.

Tenth Census of the United States. Vol. XVIII. Social Statistics of Cities. Part I. 1886.

Vol. XV. Mining Industries. 1886.

PROF. A. S. BICKMORE, New York City.

Thirty-second Annual Report Supt. Public Instruction. 1886.

D. APPLETON & CO., New York City. Inauguration of the Statue of Liberty Enlightening the World. 1887.

PROF. J. S. NEWBERRY, New York City. "Earthquakes." 1886.

"The Ancient Civilizations of America; their Origin and Antiquity." "Food and Fiber Plants of North American Indians. 1887.

DANIEL DRAPER, Ph. D. Director, New York Meterological Observatory. Annual Report. 1887.

"Self-Recording Meterological Instruments."

W. A. CONKLIN, Ph. D., New York City.

The Utility of Zoölogical Collections.

The Journal, Comparative Medicine and Surgery. Vol. VIII. 1887.

GEO. N. LAWRENCE (the author), New York City.

"Description of a new species of Thrush from the Island of Grenada, West Indies."

"The Rediscovery of Bachman's Warbler, Helminthophila Bachmani Aud, in the U. S."

A Catalogue of the Birds of Grenada, West Indies, with observations thereon.

"Descriptions of new species of Birds of the Families Sylviidæ Troglodytidæ and Tyrannidæ."

TIFFANY & CO., New York City.

Diamonds, Pearls and Precious Stones taken from the collection known as the Crown Jewels. 1887.

W. C. MARTIN, New York City.

Specimens of Printing Types. 1887.

F. D. WEISSE (the author), New York City. Practical Human Anatomy. 1886.

C. B. NICHOLS, Brooklyn, N. Y.

Catalogue of the Shells in the Jay Collection. Fourth edition. 1852.

WM. M. GOADBY, New York City.
Darwin, C. The Effects of Cross and Self-Fertilisation in the Vegetaable Kingdom.

GEO. M. HOPKINS, Troy, N. Y.

Scientific American and Supplement. 44 vols. 1876-87.

W. D. AVERELL, Editor, Philadelphia, Pa. Price List of Mollusca. 1886.

The Conchologists' Exchange. Vol. I, 7-12; II, 1-4. 1887.

Prof. S. LOCKWOOD (the author), New Jersey. 'Raising Diatoms in the Laboratory."

CHAS. E. BEECHER (the author), New Haven, Conn. "A Spiral Bivalve Shell from the Waverly Group of Pa."

Prof. A. S. PACKARD (the author), Providence, R. I.
"On the Syncarida, a hitherto undescribed Synthetic Group of extinct Malacostracous Crustacea."

"On the Carboniferous Xiphosurous Fauna of North America."

PROF. E. C. PICKERING, Director, Cambridge, Mass.

Forty-first Annual Report. 1887. "Height of the White Mountains."

"Harvard College Observatory. Boyden Fund."

Henry Draper Memorial. 1st Annual Report Photographic Study of Stellar Spectra.

F. H. CARPENTER, Editor, Boston, Mass.

Publication of the Bristol Co. Ornithological Club. No. 2, 3. Ornithologist and Oologist. Vols. IX, X, XI, 1884-86; XII, 1, 2, 3, 4, 1887.

PROF. JULES MARCOU (the author), Cambridge, Mass. "On the use of the name Taconic."

Miss A. WARREN, through J. Warren, Boston, Mass. Mastodon giganteus of North America.

D. G. BRINTON, M.D. (the author), Philadelphia, Pa.

"The Phonetic Elements in the Graphic System of the Mayas and Mexicans.

Address before the Section of Anthropology. A. A. A. S.

W. A. MARSH, Aledo, Illinois.

Catalogue of Unioes in the Cabinet of W. A. Marsh.

Prof. E. W. ČLAYPOLE, Akron, Ohio.

"Organic Variation Indefinite, not Definite, in Direction-Outcome of Environment."

J. M. SOUTHWICK, Providence, R. I.

Random Notes on Natural History. Vol. I, 8-12; III, 4, 6, 8-12; III.

U. P. JAMES (the author), Cincinnati, Ohio. "On the Monticuliporoids of the Cincinnati Group,"

A. W. BUTLER (the author), Brookville, Ind. "Some Notes on Indiana Amphibians and Reptiles."

E. E. THOMPSON (the author), Toronto, Can. "A List of the Mammals of Manitoba."

L'ABBÉ PROVANCHER (the editor), Cap Rouge, Can. Le Naturaliste. Vol. XV, 1885; XVI, 1886; XVII, 1, 2-6, 1887.

W. M. DAVIS (the author), Cambridge, Mass.

"On the Methods of Study of Thunder-storms."

"Thunder-storms in New England in the Summer of 1885."

"Brief Notices of Papers read before the Geological Section of the American Association."

"Mechanical Origin of the Triassic Monoclinal in the Connecticut Valley."

G. F. BECKER (the author), California.

"The Texture of Massive Rocks."

"Natural solutions of Cinnabar, Gold and associated sulphides."

T. L. CASEY (the author), San Francisco, Cal.

"On some new North American Pselaphidæ."

- LORENZO G. YATES (the author), Santa Barbara, Cal.
  - "Notes on Hawaiian Ferns.
  - "The Ferns of Ceylon."

"The Ferns of Jamaica."
"New Fossil Pinnæ of the Tertiary of California."

"Sketch of the Life and Works of Prof. Spencer F. Baird."

C. R. ORCUTT, Editor, San Diego, Cal.

West American Scientist. Vol. III, 22-31. 1887. "Notes on the Mollusks, Lower California." (The author.)

"Flora of Southern and Lower California." (The author.)
"Coronado Beach, San Diego, California."

San Diego; Climate, Resources, Topography, Productions, etc., by Douglass Gunn.

JOSIAH KEEP, A. M. (the author), Mills Seminary, Cal. West Coast Shells. 1887.

PROF. H. G. HANKS, Sacramento, Cal. Annual Reports State Mineralogist. Fifth, 1885; Sixth, 1886.

CHAS. WACHSMUTH (the author), Burlington, Ia. "The Summit Plates in Blastoides, Crinoids," etc.

Prof. S. LOCKWOOD, New Jersey. "Raising Diatoms in the Laboratory."

GEO. P. MERRILL (the author), Washington, D. C. "On Fulgurites."

C. HART MERRIAM, M.D., Washington, D. C. Report of the Ornithologist, 1886. Dept. Agriculture.

ARNOLD HAGUE (the author), Washington, D. C. "Deposition of Scorodite from Arsenical Water in the Yellow Stone Nat. Park."

G. K. GILBERT (the author), Washington, D. C. "The Work of the International Congress of Geologists."

JED. HOTCHKISS, Editor and Publisher, Staunton, Va. "The Virginias," a Mining and Scientific Journal. Vol. VI. 1885.

E. BOBAN (the author). Cuadro Arqueologico y Ethográfico de la Republica Mexicana.

Through SENOR ROMERE, the Mexican Minister to the United States. Report of Mexican Border Commission. 1875. The Republic of Mexico in 1876. By Antonio Garcia Cubas. 1876.

WYOMING HISTORICAL AND GEOLOGICAL SOCIETY, Wilkesbarre, Pa. Proceedings and Collection. Vol. III. 1886.

DEPARTMENT OF AGRICULTURE, Richmond, Va. Hand-Book of Virginia. Fifth edition. 1886.

JOHN HAMPDEN (the editor), London, England. The Earth. Nos. 4, 5, 6, 8, 9, 10, 12. 1887.

PROF. T. R. JONES (the author), London, England, "Notes on some Silurian Ostracoda from Gothland." Fifth Report of the Committee on the Fossil Phyllopoda of the Palæozoic Rocks.

H. B. WOODWARD (the author), London, England. The Geology of England and Wales. 1887.

R. L. JACK, Government Geologist, Townsville, Queensland. Hand-Book of Queenland Geology. 1886.

FRANK RUTLEY (the author), London, England.

"The Igneous Rocks, etc., of the Neighbourhood of the Warwickshire Coal Field."

"On the Rocks of the Malvern Hills."

Elements of Mineralogy. Second edition. 1887.

Dr. H. B. GEINITZ, Dresden, Germany.
Ueber Urenenfunde in Uebigau bei Dresden.—J. V. Deichüller. Die Insecten aus dem lithographischen Schiefer im Dresdener Museum.—J. V. Deichüller.

Ueber Nautilus Alabamensis, Morton, etc. (The author.)

Die Meteoriten des Königlichen Mineralogischen Museum in Dresden. (The author.)

Ueber Palmacites? Reichi Gem. (The author.)

DR. ERNST HUTH (the editor), Frankfurt, a. O., Germany.

Societatum Litterae. Nos. 1-10. 1887.

Monatliche Mittheilungen aus dem Gesammtgebiete der Naturwissenschaften. Nos. 1-6. 1887-88.

THE LINNÆAN SOCIETY, New York City. Minutes. No. 1. 1887.

AMERICAN CHEMICAL SOCIETY, New York City. Journal. Vol. VIII, 9, 10, 1886; IX, 1, 2, 5, 1887.

TORREY BOTANICAL CLUB, New York City. Bulletin. Vol. XIV. 1887.

NEW YORK MICROSCOPICAL SOCIETY, N. Y. Journal. Vol. II, 9, 9a, 1886; III, 1887.

NEW YORK ACADEMY OF SCIENCES, N. Y.

Proceedings, Lyceum of Nat. History. 1870.
"Second Series. Nos. 1-4. 1873-74.
Annals of the New York Academy of Science. Vol. I; II, 1-6, 9-13; III, 10, 11 and 12; IV, 1, 2. 1877-87.

Transactions. Vol. I, 5, 7, 8, and Index, 1881-82; II, 1-8, 1882-83; III, 1883-84; IV, 1884-85; V, 1, 6, 7, 8, 1885-86.

AMERICAN GEOGRAPHICAL SOCIETY, New York City.

Journal. Vol. III, 1870-71; IV, 1873; V, 1874; VI, 1874; VII, 1875; IX, 1877; X, 1878; XI, 1879; XII, 1880; XIII, 1881, XIV, 1882; XV, 1883; XVI, 1884; XVII, 1885.

Bulletin. Nos. 4, 5, 1885; 1-5, 1886-87.

CHAMBER OF COMMERCE, New York City. Annual Report. 1886-87.

COLUMBIA COLLEGE, New York City.

Fourth Annual Report. 1887.

School of Library Economy, Annual Register. 1886-87. Circular of Information. 1887-8.

MILITARY SERVICE INSTITUTE, Governor's Island, N. Y. Journal. Vol. VIII, 29-32. 1887.

BROOKLYN ENTOMOLOGICAL SOCIETY, N. Y.

Entomologica Americana. Vol. II, 9 and 10, 11, 12, 1886; III, 1-9. 1887.

NATURAL SCIENCE ASSOCIATION, New Brighton, Staten Island, N.Y. Proceedings. 1887. Extra. Nos. 5, 6. 1887.

ALBANY INSTITUTE, N. Y.

Transactions. Vol. XI. 1887.

- AMERICAN INSTITUTE OF MINING ENGINEERS, N. Y. Transactions. Vol. XV. 1887. 63 Pamphlets.
- N. Y. STATE SURVEY OFFICE, Albany. The Final Results of the Triangulation of the N. Y. State Survey. 1887.
- WARNER OBSERVATORY, Rochester, N. Y. History of the Work of the Warner Observatory. Vol. I. 1883-86.

SKANEATELES LIBRARY, Skaneateles, N. Y. Tenth Annual Report. 1887.

N. Y. STATE LIBRARY, Albany, N. Y.

Sixty-seventh Annual Report. 1884. " -eighth " -ninth 1885.

" " 1886.

" " Thirty-ninth 1885. State Museum Nat. Hist.

- VASSAR BROTHERS INSTITUTE, Poughkeepsie, N. Y. Transactions. Vol. IV. 1885-1887.
- STATE OF NEW JERSEY, through Prof. Geo. H. Cook, State Geologist, New Brunswick.

Agricultural Experiment Station. Report. 1886. Bulletin, XLI, XLII. 1887.

Geological Survey. Atlas of New Jersey. Sheets.

- TRENTON NATURAL HISTORY SOCIETY, New Jersey. Journal. Vol. I, 2. 1887.
- NEW JERSEY HISTORICAL SOCIETY, Newark. Proceedings. Vol. IX. 1886-87.
- WAGNER FREE INSTITUTE OF SCIENCE, Philadelphia, Pa. Transactions. Vol. I. 1887.
- ZOÖLOGICAL SOCIETY OF PHILADELPHIA, Pa. Fifteenth Annual Report. 1887.
- CORNELL UNIVERSITY, Ithica, N. Y. Cornell University Register. 1886-87. Bulletin. Vol. II, 3, 4, 5. 1886, 1887.
- CONNECTICUT STATE BOARD OF AGRICULTURE, Hartford. Twentieth Annual Report. 1886.
- CONNECTICUT ACADEMY OF ARTS AND SCIENCES, New Haven. Transactions. Vol. VII; Part I. 1886.
- MERIDEN SCIENTIFIC ASSOCIATION, Conn. Transactions. Vol. II. 1885-1886.
- VERMONT STATE BOARD OF AGRICULTURE, Montpelier, through H. A. Cutting, M.D., Commissioner, Lunenburgh. Ninth Annual Report. 1885-6.

Biennial Report of the Fish Commissioners. 1885 and 1886.

- NEWPORT NATURAL HISTORY SOCIETY, Rhode Island. Proceedings. Vol. I. 1886-87.
- MUSEUM OF COMPARATIVE ZOÖLOGY, Cambridge, Mass. Bulletin. Vol. XIII, 2, 3, 4, 5. 1886-87. Annual Report. 1886-87.
- PEABODY MUSEUM, ARCHÆOLOGY AND ETHNOLOGY, Cambridge, Mass. Twentieth Annual Report. Vol. III, 7. 1887. Conventionalism in Ancient American Art. - F. W. Putnam.

HARVARD COLLEGE ASTRONOMICAL OBSERVATORY, Cambridge,
Mass., Prof. E. C. Pickering, Director.

Annals Harvard College Observatory. Vol. XVII. 1887.

Observations of Variable Stars in 1886.

Magnitudes of Stars.

Discussion of the Uranometria Oxoniensis.

Meterorological Observations.

MAINE BOARD OF AGRICULTURE, Augusta.
Twenty-fifth—Thirtieth Annual Reports. 1881–86.

APPALACHAIN MOUNTAIN CLUB, Boston, Mass. Appalachia. Vol. IV. No. IV. 1886. Register of the Appalachian Mountain Club. 1887.

PEABODY ACADEMY OF SCIENCES, Salem, Mass. Annual Report, 1887.

WORCESTER SOCIETY OF ANTIQUITY, Mass. Proceedings. No. XXIV, 1886; XXV, 1887.

JOHNS HOPKINS UNIVERSITY, Baltimore, Md. Eleventh Annual Report. 1886. Circular. Vol. VI, 55-59; VII, 61. 1887.

KENTUCKY GEOLOGICAL SURVEY, Frankfort, Ky.
Report on the Geology of Elliott County. 1887.

NORTH CAROLINA STATE AGRICULTURAL EXPERIMENT STATION, through C. W. Dabney, Jr., Raleigh.

Annual Report. 1886.

Bulletins. March, April, September, October, November. 1887.

ST. LOUIS ACADEMY OF SCIENCES, Mo. Transactions. Vol. IV, 4. 1878-86.

MINNESOTA HISTORICAL SOCIETY, St. Paul. Biennial Report. 1887.

The Sources of the Mississippi. By Hon. J. H. Baker.

STATE HISTORICAL SOCIETY, Madison, Wis. Thirty-first Annual Meeting. 1887.

BROOKVILLE SOCIETY OF NATURAL HISTORY, Richmond, Ind. Bulletin. No. 2. 1886.

PHILOSOPHICAL SOCIETY, Washington, D. C. Bulletin. Vol. IX. 1887.

INDIANA STATE BOARD OF AGRICULTURE, Indianapolis.
Reports. Thirty-second—Thirty-sixth. 1882-1886.
Transactions of the Horticultural Society. 1886.

Premium List. Indiana State Fair. 1887.

CINCINNATI SOCIETY OF NATURAL HISTORY, Cincinnati, Ohio.

Journal. Vol. IX, 4; X, 1, 2, 3. 1887.

DENISON UNIVERSITY, Granville, Ohio. Bulletin. Vol. II. Parts 1 and 2. 1887.

OHIO STATE BOARD OF AGRICULTURE, Columbus.
Annual Reports. Thirty-sixth—Fortieth. 1881–1885.

ILLINOIS STATE BOARD OF AGRICULTURE, Springfield.

Circulars. Nos. 133, 135-137. Transactions. Vol. XXII, 1884; XXIII, 1885.

Eighth Annual Report. American Fat Stock and Dairy Show. 1885. Monthly Weather Review. Dec., 1886; Jan.-April, August-November, 1887.

- ILLINOIS STATE LABORATORY, Champaign.
  Bulletin. Vol. II, Art. V, 1886, Part II; Vol. III, Art. I, 1887.
- RIDGWAY ORNITHOLOGICAL CLUB, Chicago, Illinois. Bulletin. Nos. 1, 2. 1883, 1887.
- CHICAGO ACADEMY OF SCIENCES, Illinois.
  Bulletins. Nos. 1-10. 1883-1886.
  Constitution and By-Laws. 1887.
- COLORADO SCIENTIFIC SOCIETY, Denver. Proceedings. Vol. II. Part II. 1886.
- MICHIGAN STATE BOARD OF AGRICULTURE, through the Secreretary, Agricultural College. Bulletins. Nos. 22-29, 30. 1887.
- KANSAS STATE AGRICULTURAL COLLEGE, Manhattan.

  The Industrialist. Vol. XII, Nos. 20-27, 36, 37, 39-42; XIII,

  Nos. 1-3, 6, 7, 8, 9, 10-13, 14, 16, 17, 1887.
- KANSAS STATE HORTICULTURAL SOCIETY, Topeka. Fifth Biennial Report. 1887.
- WASHBURN COLLEGE LABORATORY OF NATURAL HISTORY, Kansas. Bulletin. Vol. I, No. 7. 1887; II, No. 8, 1887.
- UNIVERSITY OF CALIFORNIA, Sacramento.
  College of Agriculture.
  "Alkali Lands, Irrigation and Drainage."
  Report of the Viticultural Work. 1885 and 1886.
- CALIFORNIA ACADEMY OF SCIENCES, San Francisco, Bulletin. Vol. II, 6, 7. 1886.
- SANTA BARBARA SOCIETY OF NATURAL HISTORY, California.
  Bulletin. No. 1. 1887.
- GEOLOGICAL AND NATURAL HISTORY SURVEY OF CANADA, through A. R. Selwyn, Director, Ottawa. Annual Report. New Series. Vol. I. 1885.
- ROYAL SOCIETY OF CANADA, Montreal.
  Proceedings and Transactions. Vol. IV. 1887.
- CANADIAN INSTITUTE, Toronto, Canada. Proceedings. Vol. IV, 3, 1886; V. I, 1887.
- NATURAL HISTORY SOCIETY OF MONTREAL, Canada.

  The Canadian Record of Science. Vol. I, 1, 2, 1884; II, 5, 6-8, 1887.
- ENTOMOLOGICAL SOCIETY OF LONDON, Ontario, Canada.

  Seventeenth Annual Report. 1887.

  The Canadian Entomologist. Vol. XVIII, 10-12, 1886; XIX, 1-11, 1887.
- OTTAWA FIELD NATURALIST CLUB, Canada. Transactions. Vol. I, 1, 2, 4, 5, 6-9. 1887.
- DEPARTMENT OF MARINE AND FISHERIES, Ottawa, Canada.

  Annual Report. 1886.

  Special Report on the Fisheries Protection Service. Canada. 1886.
- NOVA SCOTIAN INSTITUTE, Halifax.
  Proceedings and Transactions. Vol. VI. Part V. 1886.
- THE ROYAL SOCIETY, London, England.

  Proceedings. Vol. XLI, Nos. 248-250, 1886-87; XLII, Nos. 251-257, 1887; XLIII, No. 258, 1887.

MANITOBA HISTORICAL AND SCIENTIFIC SOCIETY, Winnipeg. Canada.

Annual Report. 1887. Transactions. Nos. 22-29. 1887.

- NATURAL HISTORY SOCIETY OF NEW BRUNSWICK, Saint John. Bulletin. No. VI. 1887.
- GEOLOGISTS' ASSOCIATION, London, England. Proceedings. Vol. IX, 8; X, 1, 2. 1886-87.
- MANCHESTER GEOLOGICAL SOCIETY, England. Transactions. Vol. XIX. Parts 2-12. 1887.
- MANCHESTER FIELD NATURALIST AND ARCHÆOLOGICAL SOCIETY, England. Reports and Proceedings.
- BELFAST NATURALISTS' FIELD CLUB, England. Annual Report and Proceedings. 1885-1886. Series II. Vol. II, 6. 1886.
- HERTFORDSHIRE NATURAL HISTORY SOCIETY, England. Transactions. Vol. IV, 3-6. 1886-1887.
- LIVERPOOL NATURALISTS' FIELD CLUB, England. Proceedings. 1886-87.
- BRISTOL NATURALISTS' SOCIETY, England.
  Proceedings. N. S. Vol. V. Part II. 1887.
  "List of Officers and Council, etc." 1887.
- BOTANICAL SOCIETY OF EDINBURGH, Scotland. Transactions and Proceedings. Vol. XVI. Part III. 1887.
- GEOLOGICAL SOCIETY, Edinburgh, Scotland. Transactions. Vol. V. Parts II, III. 1887. Catalogue of the Library. 1887.
- ROYAL GEOLOGICAL SOCIETY OF IRELAND, Dublin. Journal. N. S. Vol. XVIII. Part II. 1886-1887.
- SCIENCE AND ART MUSEUM, Dublin, Ireland. Report. 1887.
- LEEDS PHILOSOPHICAL AND LITERARY SOCIETY, England. Annual Report. 1886-87.
- MUSEI DI ZOÖLOGIÁ ED ANATOMIE, Torino, Italy. Bollettino. Vol. I, Nos. 1-18, 1886; II, Nos. 19-26, 1887.
- ACADEMIA REAL DAS SCI. DE LISBOA. Journal. 1887. 4, 5.
- K. K. NATURHISTORISCHEN HOF-MUSEUMS, Vienna, Austria. Annalen. Band II, 1, 2, 3, 4. 1887.
- SOCIÉTÀ ADRIATICA DI SCIENZE NATURLI, Trieste, Austria. Bollettino. Vol. X. 1887.
- KONGL. VETENSKAPS-AKADEMIENS, Stockholm. Ofversigt. Arg. 43, 1886; 9, 10, 44, 1887; 1, 3, 5-8.
- DET KONGELIGE NORSKE VIDENSKABERS SELSKABS, Throndhjem. Skrifter. 1883, 1885.
- NATURWISSENSCHAFTLICHEN VEREINS, Elberfeld, Germanv. Jahres-Berichte. Siebentes. Heft. 1887.
- NATURWISSENSCHAFTLICHEN VEREIN IN MAGDEBURG. Jahresbericht und Abhandlungen. 1886.

WESTFÄLISCHEN PROVINZIAL-VEREIN, Münster. Jahresbericht. 1885, 1886.

NATURWISSENSCHAFTLICHEN VEREIN, Hamburg. Abhandlungen. Band IX. Heft III. 1886.

DER NATURWISSENSCHAFTLICHEN VEREIN FUR STEIER-MARK, Gratz.

Mittheilungen. XXXV. Heft. 1887.

Beiträge. 22 Jahrgang. 1887.

SOCIÉTÉ DE GÉOGRAPHIE ET AU MUSÉE COMMERCIAL, Saint Nazaire. Bulletin, II. 1886.

DU MUSÉUM D'HISTORIE NATURELLE, Paris. Nouvelle Archives. 2 Sér., VIII, 2; IX, 1. 1886.

SOCIÉTÉ D'HISTOIRE NATURELLE, Metz. Bulletin. 16 cahier, 1884. 17 cahier, 1887.

L'INSTITUT ROYAL GRAND-DUCAL DE LUXEMBOURG. Observations Météorologi. Vols, Troisième, Quatrième. 1887.

SOCIÉTÉ GÉOLOGIQUE DE BELGIQUE, Liége. Proces-verbal de l'Assemblee générale du 21 Nov, 1886.

L'ACADÉMIE ROYALE DE COPENHAGEN. Oversight. 1886. No. 2.

THE AUSTRALIAN MUSEUM, Sydney. Report of the Trustees for 1886.

THE ROYAL SOCIETY OF TASMANIA. Papers and Proceedings. 1886.

INSTITUT ROYAL GÉOLOGIQUE DE LA SUÈDE, Stockholm.

De Geer, G. "Kartbladet Lund." Svedmark, E. "Kartbladet, Norrtelge."

Holst, N. O. "Svartklublen." Jönsson, J. "Kartbladet Motala."

Blomberg, A. "Kartbladet Oregrund."

Svenonius, F. "Kartbladet Forsmar koch."

Lindström, A. "Kartbladet Venersborg."
Lundbohm, H. "Kartbladet Halmstad."

Lundbohm, H. "Kartbladet Halmstad."

Jönsson, J. "Egendomen Svalnäs."

Svedmark, E. "Gabbron på rådmansö och angränsande trakter of Roslagen."

Nathorst, A. G. "Några ord om visingsöserien."
Törnquist, S. L. Några iakttagelser från sommaren 1885 öfver omtvistade delar of Lagföljden inom Dalarnes Silurområde.

Holst, N. O. Resatill Grönland.

Brögger, W. C. Ueber die Ansbildung des Hypostomes bei einigen Skandinavischen Asaphiden.

Fredholm, K. A. "Norrbottens Geologi."

"Om ett Konglomerat inom urberget vid Vestana I De Geer, G. Skåne."

De Geer, G. "Om Vindnötta Stenar."

De Geer, G. and others. Miscellaneous Papers.

Svedmark, E. "Orografiska Studier." De Geer, G. "Om Barnakällegastten, en ny kritlokeal E Skåne." De Geer, G. "Om Barnakattegastich, en ny Farell, O. "Undersökningar öfver Istiden."

Nathorst, A. G. "Om Floram Skånes Kolförande Bildningar" Vogt, J. H. L. "Om Malmförekomster I. Jemtland och Hejedalen." Erdmann, E. "Skånes Stenkolsfält och Grufvor."

ZOÖLOGICAL AND ACCLIMATISATION SOCIETY OF VICTORIA, Melbourne.

Twenty-third Annual Report. 1887.

NATURAL HISTORY SOCIETY OF BOMBAY, India. Journal. Vol. I, 4, 1886; II, 1, 2, 3, 1887.

UNIVERSITY OF JAPAN, Tokio.

The Calendar for the year 1886-87.

SMITHSONIAN INSTITUTION, Washington, D. C. Miscellaneous Collection. Vols. XXVIII-XX. 1887.

Annual Report. Part I. 1886. U. S. Fish Commission. Report, 1885. Part XIII. 1887.

Through the SMITHSONIAN INSTITUTION, Washington, D. C. OFFICE OF INTERNATIONAL EXCHANGES, Washington, D. C.

Société Géologique de France, Paris.

Bulletin. 3e Série, tome XIV, No. 8; XV, 1-5. 1887.

SOCIÉTÉ ZOOLOGIQUE DE FRANCE.

Bulletin. Tome XI, 5, 6; XII, 1-4. 1887.

LINNEAN SOCIETY OF NEW SOUTH WALES, Sydney, Australia.

Proceedings. N. S. Vol. I, Parts 3, 4, 1886-87; Vol. II, Parts 1, 2. 1887.

Société Vaudoise, Lausanne.

Bulletin. Ser. 3. Vol. XXII. No. 94, 1886; 95, 1887. LIVERPOOL LITERARY AND PHILOSOPHICAL SOCIETY, England. Proceeding. Vol. XXXIX,1884-85; XL, 1885-86.

NATURFORSCHENDEN GESELLSCHAFT GRAUBÜNDENS CHUR.

Jahres-Bericht. Neue Folge. XXIX. 1884-85.

St. Gallischen Naturwissenschaftlichen Gesellschaft, St. Gallen. Bericht über die Thätigkeit. 1886.

Wetterauischen Gesellschaft für die gesammte Naturkunde zu HANAU.

Bericht. 1885-87.

NATURWISSENSCHAFTLICHEN VEREINES FÜR STEIERMARK, Gratz.

Mittheilungen. Jahrgang. 1886. NATURFORSCHENDEN GESELLSCHAFT IN BERN.

Mittheilungen. Jahre 1886. Nr. 1143-1168. 1887.

NASSAUISCHEN VEREINS FUR NATURKUNDE.

Wiesbaden. Jahrgang 40. 1887.

L'Institut Royal Grand-Ducal de Luxembourg.

Publications. Tome XX. 1886.

K. K. GEOLOGISCHEN REICHSANSTALT (Wien), Vienna.

Verhandlungen. Jahr. 1886, 6-18; 1887, 1-8. NATURFORSCHENDEN GESELLSCHAFT IN BASEL.

Verhandlungen. 1886.

SOCIÉTÉ DES SCIENCE DE CHRISTIANIA.

Forhandlungen. 1886.

THE NORWEGIAN NORTH ATLANTIC EXPEDITION, 1876-78. Christiania.

XV. Zoology. Crustacea. II.—Sars.

XVI. Mollusca. II.—Friele.

" XVII. Alcyonida.—Danielssen.

XVIII. The North Ocean, Its Depths, Temperature and Circulation. -Mohn.

BIBLIOTHEEK DER RIJKS-UNIVERSITEIT, Leiden.

Bijdrage tot de Kennis van den Bouw en de Ontwikkeling der Epiphyse bij Amphibien en Reptiliën.—De Graaf.

Theorie der Krommingvan Lijnen op Gebogen Oppervlakken.-Van Dorsten.

Konigl. Preuss Geologische Landesanstalt und Bergaradenn's IN BERLIN. Jahrbuch. 1885. MUSÉE D'HISTOIRE NATURELLE DE BELGIQUE, Brussels. Bulletin. Tome IV, 4. 1886. MUSEO NACIONAL DE MEXICO. Tomo III, 10, 11, 1886; IV, 1, 1887. Anales. Société Impériale des Naturalistes de Moscou. Bulletin. 1887. 2, 3, 4, 7. Société des Naturalistes de la Nouvelle-Russie, Odessa. Mémories. Vol. XI, Part II, 1887; XII, 1887. REAL ACADEMIA DE CIENCIAS DE MADRID. Memorias. Tomo XI. 1887. Revista. Tomo 22. Nos. 2, 3. 1887. SOCIÉTÉ ROYALE HONGROISE DES SCIENCES NATURELLES, Buda-Pest. "Analysis argillarum Hungariae."-László. Könyvtári czimjegyzék. II.—ik füzete Catalogus bibliothecae Regiae Societatis Hungaricae." "Vestigia praehistorica in piscatu populi Hungarici." Magyarország Gyógyhelyei és Ásványvizei. Flora muscorum Hungaricae.—Hazslinszky. De petris eruptione natis in montibus Persany.—Buday. Aurarium Nagyág et constitutio ejus geologica.—Inkey. Vicissitudines meteorologicae mensis Maji in Hungaria.—Hegyfoky. DEPARTMENT OF THE INTERIOR, Washington, D. C. U. S. GEOLOGICAL SURVEY. Bulletins. Nos. 30-39. 1886-1887. Mineral Resources of the U.S. 1885. Monograph X. Dinocerata extinct order of Gigantic Mammals.-"Geological History of Lake Lahontan." Sixth Annual Report. 1884-85. BUREAU OF EDUCATION. Report of the Commissioner. 1872. 1884-85. Circular of Information. No. 2, 1873; 5, 7, 8, 1875; 3, 5, 1879; 4, 5, 7, 1880; 7, 1881; 1, 2, 1886. Report on School Architecture. 1870. Education in the British West Indies. 1872. "The National Bureau of Education." 1875. "The Organization and Management of Public Libraries." "Address on National Aid to Education," by John Eaton.
"The Indian School at Carlisle Barracks." 1880. "Progress of Western Education in China and Siam." "Educational Tours in France." 1880. "Industrial Education in Europe." 188
"The Discipline of the School." 1881. "Fifty Years of Freedom in Belgium; Education, etc. 1881. "Natural Science in Secondary Schools." 1881. "Instructions in Morals and Civil Government." 1802. BOARD OF INDIAN COMMISSIONERS. Eighteenth Annual Report. 1886. BUREAU OF ETHNOLOGY. Fourth Annual Report. 1882-83. DEPARTMENT OF STATE, Washington, D. C. Consular Report. Nos. 73, 78, 81, 85. 1887. Index to Consulars' Reports. Nos. 1 to 59 (1880–1885). 1887.

Forestry in Europe. 1887.

TREASURY DEPARTMENT, Washington, D. C.

Annual Report. 1887.

OFFICE SUPT. U. S. LIFE-SAVING SERVICE.

Annual Report. 1886.

OFFICE OF THE LIGHTHOUSE BOARD.

Annual Report. 1886.

WAR DEPARTMENT, Washington, D. C.

Monthly Weather Review. October, December, 1886; January to October, 1887.

Summary and Review. June, August, November, 1885.

### DEPARTMENT OF MAMMALS.

J. A. ALLEN, Am. Mus. Nat. Hist., New York City. 72 skins and 75 skulls, from Southern Arizona.

W. W. COLE, New York City.

The large Asiatic Elephant "Samson."

DEPARTMENT OF PUBLIC PARKS, New York City, through Mr. W. A. Conklin, Superintendent Central Park Menagerie.

I Kangaroo, I Peccary, 2 Deer, I Sacred Calf, I Leopard, I Monkey, I Antelope, I South American Squirrel, I Mexican Porcupine, 2 Armadillos, I Galictis, I Paradoxure, I Seal, 2 young Sea Lions, 3 young Tigers, 2 young Badgers; all from the Central Park Menagerie.

ROBERT HARRIS, New York City.

1 Skeleton of American Bison.

DR. E. A MEARNS, U. S. A., Fort Verde, Arizona. 2 Otters.

THEODORE ROOSEVELT, New York City.

9 Skins of North American Mammals.

MRS. ROBERT L. STUART, New York City.
16 Skins, collected in the vicinity of New York City, by Mr. Richardson, while gathering material for the groups.

FRANK J. THOMPSON, New York City. I Monkey and 2 young Lions.

RALF WALDO, M.D., New York City. 13 Opossums and 4 Bats.

### DEPARTMENT OF BIRDS.

H. B. BAILEY, New York City. Collections of nests and eggs, and several skins, mostly North American.

HERBERT BROWN, Tuscon, Arizona. 2 skins of Arizona Birds.

DEPARTMENT OF PUBLIC PARKS, New York City, through Mr. W. A. Conklin, Superintendent Central Park Menagerie.

I White Pelican, I Herring Gull, 4 Swans, 2 Geese, I Guan, I Stork, I Spoonbill, I White Crane, I English Pheasant, I King Vulture, I Golden Eagle, I Roseate Cockatoo, I Toucan, I Raven; all received in the flesh from Central Park Menagerie.

D. G. ELLIOT, New York City.

2 skins of Franklin's Grouse; 2,000 skins of Hummingbirds, about 400 species.

COL. N. S. GOSS, Topeka, Kansas.

I skin of Snowy Plover, 2 eggs of Mississippi Kite, from Kansas.

ROBERT B. LAWRENCE, New York City. I skin of Prairie Falcon.

Dr. E. A. MEARNS, U. S. A., Fort Verde, Arizona. 2,300 skins of Arizona Birds, including many large Water Birds and Birds of Prey, from Arizona.

DANIEL E. MORAN, Brooklyn, N. Y. I skin of Baird's Sandpiper, from Long Island, N. Y.

L. O. PINDAR, Hickman, Ky. 160 eggs of Kentucky birds.

JENNESS RICHARDSON, Am. Mus. Nat. Hist., New York City. I skin of a Quail, from Central America.

THEODORE ROOSEVELT, New York City.

30 skins and mounted birds, mostly from Egypt and Palestine.

MRS. ROBERT L. STUART, New York City.

18 groups of mounted birds, with their nests and eggs; 210 skins, collected in the vicinity of New York City, by Mr. Richardson, in gathering materials for the groups.

CAPT. P. M. THORNE, U. S. A., Fort Lyon, Col. I skin of Western Lark Finch and I skin of Western Tree Sparrow.

UNITED STATES NATIONAL MUSEUM, Washington, D. C., through Prof. G. Brown Goode, Director. I skeleton of the Great Auk, from Funk Island.

### GEOLOGICAL DEPARTMENT.

A. F. FORESTE, Granville, Ohio.

Five species of Trilobites. Clinton Group, Dayton, Ohio.

HENRY BOOTH, Poughkeepsie, N. Y.

Seven specimens of Copal enclosing insects; six from Zanzibar, one from North Coast of Africa.

SANDERSON SMITH, New York.
Seven species of Fossils, from the Triassic, Nye Co., Nevada, and from the Laramie Group, various localities, and from the Tertiary of Texas.

A. O. OSBORN, Waterville, N. Y.

One specimen of *Pterygotus macrothalmus*, from Marshall, N. Y. One specimen of *Dolichopterus macrocheirus*, from Forge Hollow, Marshall, N. Y.

J. WILCOX, Philadelphia, through Prof. Heilprin.
One hundred and thirty-three specimens of Pliocene Fossils, from Caloosahatchie Shell Bed.

J. M. CONSTABLE, New York.

Two small teeth (2d and 3d) of Mastodon.

G. ASHMAN, Herkimer Co., N. Y.

One large Orthoceras rigidum Hall, from the Lower Helderberg Limestone. Cedarville, Herkimer Co., N. Y.

- G. N. LAWRENCE, New York City.

  The crown of a Mastodon Tooth from Missouri.
- J. PEARSON, Washingtonville, Orange Co., N. Y. Several slabs of Schoharie Grit with Fossils, from that place.
- D. HAMILTON, Front St., New York.

  Block of French Buhrstone, with Fossils.
- J. M. CONSTABLE, New York.

  Eleven slabs of Fossil Fish and two Plants, one a Palm Leaf from the Eocene, Wyoming.

### MINERALOGICAL DEPARTMENT.

H. BOOTH, Poughkeepsie, N. Y.
Four specimens of Copper Ores from Morenci, Arizona; three Azurites and one Malachite.

CALIFORNIA LAND AND TIMBER CO., through R. D. Perry.
One specimen of Magnetic Iron Ore.

- G. S. STANTON, New York. Specimen of Black Tourmaline in Granite, from New York Island.
- W. W. JEFFERIS, Philadelphia, Pa. Fluorite, Sphalerite, Barite, from England; Jefferisite, from Pa.
- NEW JERSEY ZINC MINING CO.

  Three specimens of Zinc Ore, from Franklin, N. J. (Willemite, Zincite and Franklinite.)
- J. TERRY, New York.
  A large collection of Clay Concretions from near Connecticut and Hog Rivers, Conn.
- D. JACKSON STEWARD, New York.
  One Calcite. Alston Moor, England.
- J. M. CONSTABLE, New York. One Calcite. Alston Moor, England. One Quartz and Specular Iron. England.
- C. A. QUINTARD, Norwalk, Conn.
  One specimen of Chondrodite. Tully Foster Mine, New York.
- L. CAHN, Lincoln, Neb. Vial of Zircon Crystals. El Paso Co., Col. Celestite Crystal. Garden of the Gods, Colorado.
- S. D. DILL, Nova Scotia.

  One specimen of Gold Quartz, from Centre Rawdon, Nova Scotia.
- A. A. CARY, Jr., New York. Mineral specimens from New Jersey and North Carolina. (Agalmatolite, Garnet, Jeffersonite, Apatite, Genthite, Deweylite, Kaolinite, Samarskite.)
- H. G. HANKS, California.
   Nine Crystals of Glauberite.
   Four Crystals of Hanksite, both from California.
- H. T. WOODMAN, New York. Two specimens of Garnetiferous Vein in Gneiss. New York Island. Four pieces of Rose Quartz. Fairfield Co., Conn.
- Lieut. EMMONS, U. S. Navy. Five Garnets, from mouth of Stickeen River, Alaska.

ARTHUR HARRIS, New York.

Two specimens of Obsidian, from Yellow Stone Park, showing Lithophyses.

Two specimens of Sulphur, from same locality.

H. MOORE, New York.

Specimen of Mountain Leather, from Mexico, State of Guerrero.

A FRIEND OF THE MUSEUM, through Mr. H. T. Woodman.

One large handsome slab of Gneiss Rock, carrying Garnets, from New Haven Co., Conn.

Three specimens of Wernerite. Fairfield Co., Conn.

### CONCHOLOGICAL DEPARTMENT.

WALDEMAR KELCH, New York.

Specimens of Arca pexata, A. transversalis, Anomia glabra and Crepidula fornicata, from Long Island Sound.

# DEPARTMENT OF FISHES AND REPTILES AND THE INVERTEBRATES.

Col. NICOLAS PIKE, Brooklyn, N. Y.

Four cases of prepared specimens of Amblystoma, showing their life history.

Numerous indigenous Reptiles, from Long Island, N. Y.

A. HASSLER.

One large Gorgonia. Florida.

GEORGE B. SENNETT.

Skin of a young Crotalus. Texas.

One skin of Lizard. Texas. One skin of Lizard. Texas.

Three Phrynosomas. Texas.

ADOLPH SEVERT.

One Tænia lata.

GEORGE N. LAWRENCE.
Three Brook Trout. Mounted.

One Chelopus guttatus. Mounted.

One Chelydra serpentina. Mounted. Two Chelopus insculptus. Mounted.

Two Chrysemys picta. Mounted.

FRANK M. CHAPMAN.

One Trigonocephalus piscivorus. Florida.

E. STARK, Chicago.

One Pseudemys elegans. Illinois.

Dr. RALPH WALDO.

Collection of Serpents. Long Island, N. Y.

CENTRAL PARK MENAGERIE.

One skin Testudo carbonaria. South America.

ARNOLD KURTH, Florida.

One Trigonocephalus piscivorus.

One Crotalus miliaris. Florida.

M. S. CRANE, Caldwell, N. J.

Seven Muhlenberg Tortoises.

One Chrysemys picta.

Nine Chelopus guttatus.

Three Cistudo carolina.

Six Chelopus insculptus.

And considerable number of Reptiles and Batrachians not yet arranged for cataloguing.

### JENNESS RICHARDSON.

Two Chrysemys picta.

Three Chelopus insculptus.

Four Cistudo carolina.

J. A. ALLEN.

One Scaphoipus solitarius.

Dr. GARNIER, Toronto, Canada.

Twenty-two species of Reptiles and Batrachians. Europe and Canada.

E. D. SCOTT, Arizona.

Sixteen Reptiles and Batrachians, from American Flag, Arizona.

Dr. JAMES ROSS, New York City.

Nineteen species of Serpents, from South America.

UNITED STATES FISH COMMISSION.

Invertebrates of Coast of New England, dredged in deep sea.

OSCAR S. FRASER, Calcutta Museum.

Collection of Serpents and Batrachians, and several large Tortoises in skeleton.

# EXCHANGES.

### LIBRARY.

A. E. FOOTE, Philadelphia, Pa. Gazetteer of the State of Vermont. 1824.

Memoranda of the Natural History of Hayti. By A. Gregg.

C. R. KEYS, Des Moines, Iowa.

Bulletin. Des Moines Academy of Sciences. Vol. I, 1. 1885.

WM. H. LEWIS, Pawtucket, R. I. Papilio. Vol. I. 1881.

L. S. FOSTER, New York City.

Maclurian Lyceum. Contributions. Vol. I, 1, 2, 3. 1827-29.

IOHN TATLOCK, JR.

Topographical Survey. Adirondack Region. 3-7. Report. Third Annual Report. Bureau of Ethnology. 1884.

F. M. CHAPMAN.

The Code of Nomenclature and Check List of North American Birds. 1886.

WALDEMAR KELCH, New York City.

Kobelts' Catalog der in europäischen Faunengebiet lebenden Binnen-

conchylien. 1881.

Münter, J. Ueber Muscheln Schnecken u verwandte weichthiere. 1876.

A. W. VOGDES, New York City.

The Third Report. State Agricultural Chemist of Maryland.—James Higgins.

Third Annual Report of the Board of Regents. West Virginia University. 1870.

A. WOODWARD, New York City.

"Una Lartetia italiana." By C. De Stefani.

"Sopra alcune xerophilæ dell 'Apennino centrale." By C. De Stefani.

"Clausilia Lunensis." By C. De Stefani.

"Remarks on the Species of Whales on the Coasts of Cornwall." By Jonathan Couch.
"Meteorological Observation on a Greenland Voyage in the ship

Resolution. By Wm. Scoresby, Jun.
"Meteorological Journal kept during a Greenland Voyage. 1812."

- Apuntes para la Fauna Puerto-Riqueña. By Juan Gundlach. Catalogus Conchylirum. Parts 1, 2. By O. A. Mörch.
- W. A. CONKLIN, Ph. D., New York City.

Nova Scotian Institute. Proceedings and Transactions. Vol. IV, I, 3; V, 1, 3. 1876-1881.

### DEPARTMENT OF MAMMALS.

I skin of Mountain Goat.

#### MINERALOGICAL DEPARTMENT.

### SMITHSONIAN INSTITUTION.

Consignment of seventeen minerals. (Geyserite, Wulfenite, Aragonite, Cancrinite, Lepidolite, Tourmaline, Cryophyllite, Columbite, Novaculite, Dufrenite, Turquoise.)

# PURCHASES.

### LIBRARY.

Vol. XV. 1886. Zoology. Vol. XVI. 1886. Zoology. Vol. XVII. 1886. Zoology. Vol. XVIII. 1887. Zoology. Vol. XIX. 1887. Zoology. Report of the Challenger. Zoology. International Congress of Geologist. 1886. Zoological Record. Vols. XXI, XXII. 1885, 1886. Cossmann. Catalogue Illustre des Coquilles Fossiles. Parts I, II. 1886, 1887. Catalogue of the Bird, of the British Museum. Vol. XI. 1887. Trow's New York City Directory. 1887.

Metropolitan Directory. 1888. Biologia Centrali-Americana. Nos. 53-63.

American Journal of Science and Art. 1886-87.

American Naturalist. 1887.

Science. 1887.

The Ibis. 1887.

The Zoologist. 1887. Forest and Stream. 1887. Annals and Magazine of Natural History. 1887. Nature. 1887. Palæontographical Society. 1886. Palæontographica. 1886-87. Neues Jahrbuch Mineralogie, Geologie und Palæontologie. 1887. Ornithological Library of D. G. Elliot. 987 volumes; 675 pamphlets.

### DEPARTMENT OF MAMMALS.

o Monkeys, mounted; 7 mounted North American Mammals, I head of American Bison, I skin of Siberian Sheep, and the following in the flesh: I American Tapir, I Lemur, I young Camel, 3 Antelopes. Also 200 skins and 200 skulls for the Study Collection of North American Mammals, and 52 skulls and 15 skeletons of South American Mammals.

FROM THE MUSEUM EXPEDITION.

2 skins, 75 skulls, 10 skeletons, and parts of many others, of the American Bison; 18 skins of the Pronghorn Antelope, 18 skins and I skeleton of the Mule Deer, 16 skins of the Prairie Wolf, 2 skins of the Canada Lynx, 2 skins of the Bay Lynx, I skin of the Beaver, I skin and I. skeleton of the Jackass Hare, 3 skins of the Sage Hare, 1 skin of Prairie Dog, 12 skins and 9 specimens in alcohol of the White-footed Mouse, I skin of Ground Squirrel, 3 skins of Pouched Mice, I skin of Prairie Mouse, I skin and I skeleton of the Gray Wolf; all from Northern Montana, and collected by Messrs. D. G. Elliot and Ienness Richardson.

#### DEPARTMENT OF BIRDS.

The Lawrence Collection of American Birds, numbering about 12,000 skins and 150 mounted specimens, representing about 4,000 species; 4,000 skins, about 500 nests and eggs, and about 300 sterna, from Matto Grosso, Brazil; 120 skins, from Yucatan; 14 nests and 55 eggs, North American, and rare; 5 skins of rare foreign birds, 8 skins of rare North American Birds.

FROM THE MUSEUM EXPEDITION.

67 skins, as follows: 7 Sage Grouse, 2 large Hawks, I Woodpecker, 7 Horned Larks, I Pine Finch, I Tit Lark, 3 Western Robins, 2 McCown's Buntings, 5 Meadow Larks, 11 Brewer's Blackbirds, 2 Northern Shrikes, 2 Magpies, 23 Bohemian Waxwings, 1 Raven, I Chestnut-collared Bunting; from Northern Montana; collected by Messrs. D. G. Elliot and Jenness Richardson.

### GEOLOGICAL DEPARTMENT.

J. ROBERTS, Fall River, Mass. Two specimens of *Diplomystus dentatus* (fossil fish), and two specimens of D. analis, from Twin Creek, Wyoming.

H. T. WOODMAN, New York.

A polished block of Stromatopora expansa, from Iowa City, Iowa.

JAS. DAVISON, Wyoming.

Fossil Fishes and Plants, from Twin Creek, Wyoming.

WARD & HOWELL, Rochester, N. Y. One skeleton of Mastodon giganteus, from Newburg, N. Y. Fifteen Fossil Fish, from Twin Creek, Wyoming.

### MINERALOGICAL DEPARTMENT.

W. NIVEN, New York.

Sixteen specimens of minerals. (Crocidolite, Lapis Lazuli, Malachite, Quartz, Apatite, Acadiolite, Adularia, Garnet, Celestite, Andalusite, Baryto-Calcite, Pyrite, Titanite, Calcite).

MR. KLOMAN.

One specimen Esmarkite (Fahlunite). Bamble Brevig, Norway.

G. L. ENGLISH & Co.

Twelve specimens of minerals. (Tourmaline (Rubellite), Realgar, Barite, Linarite, Wulfenite, Calamine, Analcite, Brucite, Rhodonite).

### DEPARTMENT OF FISHES AND REPTILES.

Ten Serpents, from Rio de Janeiro, South America. From Herbert H. Smith.

## PATRONS.

By the Payment of One Thousand Dollars.

MORRIS K. JESUP. ROBERT L. STUART.\* MISS C. L. WOLFE.\* ROBERT COLGATE.\* FREDERIC W. STEVENS. PERCY R. PYNE. JAMES M. CONSTABLE. JOHN B. TREVOR. ADRIAN ISELIN. HUGH AUCHINCLOSS. JOSEPH W. DREXEL.\* WILLIAM E. DODGE, JR. JOHN D. WOLFE.\* ABRAM S. HEWITT. C. VANDERBILT. J. PIERPONT MORGAN. CHARLES LANIER. D. JACKSON STEWARD. EDWARD CLARK.\* A. G. PHELPS DODGE. JAMES BROWN.\* A. T. STEWART.\* S. WHITNEY PHŒNIX.\* BENJAMIN H. FIELD. WILLIAM T. BLODGETT.\* OLIVER HARRIMAN. ROBERT BONNER. JAMES B. COLGATE, ALEXANDER STUART.\* WILLIAM A. HAINES,\* BENJAMIN AYMAR.\* RICHARD ARNOLD.\* JOSEPH H. CHOATE. JONATHAN THORNE.\* D. O. MILLS. JOHN A. C. GRAY.

HEBER R. BISHOP. CHAS. G. LANDON. WILLIAM E. DODGE.\* PETER COOPER.\* WILLIAM H. ASPINWALL.\* B. H. HUTTON,\* J. TAYLOR JOHNSTON. D. N. BARNEY.\* I. N. PHELPS. JAMES STOKES.\* D. WILLIS JAMES. EDWARD MATTHEWS. WILLIAM T. GARNER.\* JAMES LENOX.\* A. H. BARNEY. COLEMAN T. ROBINSON.\* BENJAMIN B. SHERMAN.\* JAMES R. ELY. JONAS G. CLARK. JOHN ANDERSON.\* JOHN JACOB ASTOR. CATHERINE L. SPENCER.\* JAS. GORDON BENNETT. CYRUS W. FIELD. ALEX, H. BROWN, M.P. J. A. BOSTWICK. FREDERICK BILLINGS. MRS. R. L. STUART. JESSE SELIGMAN. HON. THEODORE ROOSEVELT. OSWALD OTTENDORFER. J. HAMPDEN ROBB. J. F. LAUBAT. HON. H. J. JEWETT. WM. D. SLOANE. D. G. ELLIOT.

<sup>\*</sup> Deceased.

## FELLOWS.

By the Payment of Five Hundred Dollars.

SAMUEL WILLETTS.\* ROBERT GORDON. HOWARD POTTER. C. V. S. ROOSEVELT.\* CHARLES W. GRISWOLD.\* SAMUEL F. B. MORSE.\* RUTHERFORD STUYVESANT. MEREDITH HOWLAND. MARSHALL O. ROBERTS.\* JOHN ALSTYNE.\* O. B. POTTER. HON. LEVI P. MORTON. HANSON K. CORNING.\* STEWART BROWN.\* ABRAM DUBOIS. TIFFANY & CO. LUCIUS TUCKERMAN. ALFRED B. DARLING.

A. A. LOW. RICHARD MORTIMER, JR. THOS. A. VYSE, JR. GEORGE G. GRAY.\* GOUVERNEUR KEMBLE.\* SAMUEL HAWK.\* JOHN SNEDEN.\* GEORGE BLISS. R. A. WITTHAUS, M.D. THOMAS BARRON.\* GEORGE W. CASS. H. M. SCHIEFFELIN. PROF. WM. LIBBEY, JR. ROBERT LENNOX KENNEDY. F. R. HALSEY. CYRUS W. FIELD, JR. H. M. FLAGLER. D. B. IVISON.

\* Deceased.

# LIFE MEMBERS.

By the Payment of One Hundred Dollars.

WILLIAM M. HALSTED.
JOHN P. HAINES.
W. A. HAINES, JR.
RICHARD T. HAINES.
HENRY PARISH.
HENRY I, BARBEY.
ROBERT B. MINTURN.
HENRY CHAUNCEY.
JAMES M. BROWN.
S. C. WILLIAMS.
JAMES W. PINCHOT.
ALFRED M. HOYT.
HENRY F. SPAULDING.
STEPHEN R. LESHER.
EDWARD LUCKEMEYER.

EFFINGHAM TOWNSEND,
ANDREW H. GREEN.
WILSON G. HUNT.
CONSTANCE B. ANDREWS.
FORDYCE BARKER, M.D.
GEORGE E. BELCHER, M.D.
HON. ADDISON BROWN.
A. DALRYMPLE.
WM. BUTLER DUNCAN.
JAMES FRASER.
WILLIAM H. GEBHARD.
JOHN A. HADDEN.
BENJAMIN HART.
C. P. HUNTINGTON.
CHAS. H. KALBFLEISCH.

WILLIAM C. MARTIN. JOHN T. METCALFE, M.D. WILLIAM I. PEAKE. ALFRED PELL. ISAAC H. REED. S. N. SOLOMON. SAMUEL B. SCHIEFFELIN. JOHN H. SHERWOOD. HENRY MILFORD SMITH. ALEX. H. STEVENS. HENRY M. TABER. FRED. F. THOMPSON. WM. M. KINGSLAND. JAMES LOW. ROWLAND G. MITCHELL, JR. ROBERT G. REMSEN. Prof. A. E. FOOTE. JAMES KNIGHT, M.D. E. OELBERMANN. R. G. DUN. A. JACOBI, M.D. JOHN PONDIR. ALEX. HADDEN, M.D. MISS E. S. HAINES. Mrs. W. A. HAINES. JAS. MUHLENBERG BAILEY. GIFFORD PINCHOT. B. G. ARNOLD. CHAS. M. DACOSTA. A. A. RAVEN. H. D. VAN NOSTRAND. GEORGE RICHARDS. JOHN FITCH. MRS. B. L. ANDREWS. MANDEVILLE MOWER. JAS. O. SHELDON. EDWARD COLGATE. WASHINGTON E. CONNOR. ANDREW E. DOUGLASS. H. G. MARQUAND. PETER MARIE. JACOB HAYS. ED. KIRK WILLARD. E. J. DONNELL. ISIDOR STRAUS. JACOB H. SCHIFF.

EDWARD WINSLOW. W. D. NICHOLS. JAMES TERRY. W. B. NEFTEL, M.D. MISS E. AYMAR. BENJAMIN WELLES. H. VICTOR NEWCOMB. GEORGE KEMP. C. W. CHAPIN, JR. MRS. H. HERRMAN. J. H. DEMOTT. CHAS. P. BRITTON. C. AMORY STEVENS. E. A. MOEN. HENRY B. PLANT. HON. EDWARD COOPER. SETH BARTON FRENCH. S. DEJONGE. A. C. KINGSLAND. GEO. F. KUNZ. GEORGE GARR. DAVID BANKS. HENRY CLEWS. MRS. JAMES C. AYER. CHAS. M. CAULDWELL, M.D. HON. BENJAMIN A. WILLIS. ALBERT MATHEWS. FRANK G. BROWN. CHARLES MORAN. JOSEPH LAROCQUE. FRANCIS P. FREEMAN. LOUIS STERN. LOOMIS L. WHITE. FREDERICK B. WENDT. ANSON PHELPS STOKES. DR. HENRY F. WALKER. SAMUEL P. AVERY. BENJAMIN BREWSTER. ISAAC P. CHAMBERS. JOHN N. A. GRISWOLD. HARVEY S. LADEW. JOHN WOLFE. D. B. IVISON. A. O. OSBORN. Mrs. A. O. OSBORN. W. H. BEADLESTON.

MISS OLIVIA E. P. STOKES.
CHANDLER ROBBINS.
MRS. ALEX. CAMERON.
MRS. JOHN J. WYSONG.
ELLIOTT F. SHEPARD.
I. H. SHOENBERGER.
ARCHIBALD ROGERS.
HERMAN C. VON POST.

C. M. BELL, M.D.
GODFREY MANNHEIMER.
HENRY A. V. POST.
HENRI M. BRAEM.
AUGUSTE RICHARDS.
RUDOLPH KEPPLER.
EDWARD TUNK.
MISS C. O. JONES.

# ANNUAL MEMBERS.

By the Payment of Ten Dollars Yearly.

Abbott, Frank, M.D. Agnew, Alex. McL. Agnew, C. R., M.D. Agnew, Hon. John T. Aitken, John W. Aldrich, Mrs. H. D. Alexander, Henry M. Alexander, Jas W. Amend, Bernard G. Amsinck, Gustav Amy, H. Anderson, E. Ellery Anderson, H. H. Anthony, E. Appleton, Daniel Appleton, D. S. Appleton, Wm. H. Appleton, W. W. Archbold, John D. Armour, H. O. Arnold, John H. V. Astor, John Jacob Atterbury, J. T. Auchincloss, Hugh Auchincloss, Mrs. E. Auchincloss, E. S. Auchmuty, R. T. Babcock, S. D. Bailey, N. P. Baldwin, C. C. Baldwin, J. G., M.D. Baldwin, O. D. Baltzer, H. R. Bangs, L. Bolton, M.D. Banyer, Goldsborough Barker, Fordyce, M.D. Barker, Stephen Barlow, S. L. M. Barnard, Horace Barnes, John S. Barnes, Theo. M.

Barney, Chas. T. Barron, John C., M.D. Bates, L. M. Beadleston, E. Beebe, Chas. E. Belknap, Mrs. A. B. Bell, Hon. Isaac Bend, George H. Benjamin, John Bernheimer, Adolph Bernheimer, Isaac Bianchi, F. Bien, Julius Billings, O. P. C. Bissinger, Philip Blagden, George Blakeman, Birdseye Blanchard, G. R. Bliss, C. N. Bliss, George Bliss, George T. Bliss, William Bloodgood, John H. Bonn, William B. Booss, Frederick Borg, Simon Boskowitz, I. Boulton, Wm. G. Bouvier, John V. Bouvier, M. C Bowdoin, G. S. Braker, Conrad, Jr. Brandon, Edward Breslin, J. H. Bristow, Hon. B. H. Brockway, A. N., M.D. Brookfield, Wm. Brown, Miss E. W. Brown, Mrs. James M. Brown, J. Crosby Brown, Geo. H.

Bruce, Col. S. D. Bryce, William Buckham, George Burden, James A. Burrill, John E. Butler, Charles Butler, Prescott Hall Butler, Wm. Allen Byrd, George H. Cadwalader, John L. Cahn, Leopold Cammann, H. H. Camp, W. A. Carter, Robert Cary, Alanson Cathcart, George R. Charlier, Elié Cheever, John H. Chesebrough, Robert A. Child, H. C. Chittenden, Hon. S. B. Clark, George C. Clarkson, Frederick Coffin, Chas. H. Coffin, Edmund, Jr. Colbron, W. Townsend Coles, Mrs. W. F. Colgate, Abner W. Colgate, Mrs. Bowles Colgate, Robert, Jr. Colgate, R. R. Colgate, Samuel Colgate, Mrs. Samuel Colgate, Samuel J. Collins, Benjamin Collins, Miss Ellen Compton, A. T. Comstock, M. Louise Constable, Frederick A. Constable, James M. Constantine, A. J.

Contoit, Chas. H. Cook, John C. Cooper, Geo. C. Corning, E. L. Cossitt, F. H. Cotheal, Alex. I. Cotting, Amos Crawford, R. L. Crerar, John Crimmins, Hon. J. D. Crocker, George Aug. Crolius, Clarkson Crosby, Rev. Howard Cruger, S V. R. Cullum, Gen. Geo. W. Currie, John H. Curtiss, Frank Cutting, R. Fulton Cutting, Robert L. Cutting, W. Bayard Daly, Hon. Chas. P. Davies, W. G. Davis, Theodore M. Davison, C. A. Day, Henry Day, Henry M. Day, Rev. Henry S. Decker, Joseph S de Forest, Mrs. Geo. B. de Forest, W. H. de Rham, Charles De Grauw, Walter N. De Ruyter, John D. Delafield, Maturin L. Delamater, Cornelius H. Dickie, E. P. Dickey, Charles D. Dickey, Hugh T. Dimock, Henry F. Dix, Rev. Morgan, D.D. Dodge, Cleve H Dodge, Miss Grace H. Dodge, Miss Mary M. Dodge, Mrs. Wm. E., Jr. Dodge, George E. Dougherty, A Dowd, Hon. Wm. Dows, David Draper, Frank E. Draper, Dr. W. H. Du Bois, Katharine Du Bois, William A. Du Bois, Dr. Matthew B. Duncan, John P. Dunham, G. H. Dunlap, Robert Earle, Wm. P. Ehret, George

Eidlitz, Leopold Eidlitz, Marc Einstein, David L. Elkins, Stephen B. Elliott, John Ellis, John W Ely, Richard S. Eno, Amos F. Eno, Amos R. Fahnestock, H. C. Fargo, James C. Farnham, Mrs. Horace P. Havens, Chas. G. Fellows, Richard C. Ferguson, Edward Fish, Hon. Hamilton Fiske, Josiah M. Fleet, Oliver S. Fletcher, Andrew Foote, C. B. Ford, John R. Fosdick, Chas. B. Foster, Scott Foulke, Thomas Fraser, George S. Froment, Frank L. Frost, Isaac T. Fry, Charles M. Gardner, John H. Gautier, J. H. Georger, Louis F. Gibbs, Theodore K. Gilbert, Clinton Goadby, James H. Goadby, Thomas Goddard, F. N. Goddard, J. W. Godwin, Parke Goldenberg, Simon Goodridge, F. Goodwin, James J. Gordon, George Gossler, G. H. Gotthold, Fred. Grace, Hon. W. R. Gracie, J. K. Graham, Malcolm Greenwood, Isaac J. Gregory, Chas. E. Griffiths, John Griswold, Chester Groesbeck, D. Gunther, F. Frederick Gurnee, W. S. Hague, James D. Hahlo, Hermann Haight, Henry J. Hall, John H. Hall, John T.

Halsted, Jacob Halsted, Robert Hammerslough, Samuel Hammond, E. A. Haneman, John T. Harbeck, Mrs. Eliza D. Hargous, L. S. Hart, Rev. A. B. Hartley, Marcellus Havemeyer, Hector C. Havemeyer, Theo. A. Hawley, Henry E. Hendricks, Edmund Hendricks, Joshua Herriman, John Higginson, James J. Hildburgh, Henry Hill, Edward Hill, Geo. H B. Hillhouse, Hon. Thomas Hinman, W. K. Hinton, J. H., M.D. Hitchcock, Hiram Hitchcock, Miss S. M. Hoadley, Russell H. Hoag, T. Daniel Hodgman, Geo. F. Hoffman, George Hogg, Egenton Holden, E. R. Holt, Charles L. Holt, Henry Holt, R. S. Hone, Robert S. Horton, Burrett W. Houget, Henry L. Houghton, Rev. G. H. Hoyt, Reuben Hubbard, Frederick Hubbard, Gen. T. H. Hunt, Samuel I Hunter, Mrs M. L. Huntington, Geo.S., M.D. Hyde, Albert G. Hyde, Samuel T. Inman, John H. Ireland, John B Iselin, Adrian, Jr. Iselin, Mrs. Adrian Iselin, Oliver Iselin, Wm. E. Isham, W. B. Jackson, Wm. H. Jackson, W. H. M.D. Jaffray, E. S. Jaffrey, Robert Jenkins, Wm. L.

Jesup, Jas. R., Jr. Juilliard, A. D. Kellogg, Charles Kelly, Eugene Kemp, Edward Kemp, John H. Kennedy, John S. Kerbs, Adolph Kerner, Charles H. Ketchum, A. P. Knapp, H., M.D. Knox, Alexander Kraus, William Kuhne, Frederick Kuttroff, Adolf Langdon, Woodbury G. Larremore, Hon. R. L. Lawrence, George N. Leale, Charles A., M.D. Leavitt, Henry S. Lee, William H. Lefferts, Frederick R. Lehman, E. Lehman, M. Lesher, Stephen R. Lewis, Charlton T. Linde, Frederick C. Livingston, Edward Livingston, Robert E. Livingston, Robert J. Livingston, William S. Livingston, Wm. S., Jr. Lockwood, Le Grand Loeb, S. Lord, D. D. Lounsbery, R. P. Low, C. Adolphe Lowry, John Ludington, C. H. Lummis, Wm. Lusk, William T., M.D. Lyon, Albert J. Mack, J. W. Macy, Charles A., Jr. Mahany, David Maitland, Robert L. Mali, Charles Man, Albon P. Manwaring, David W. Markoe, Dr. Thos. M. Marsh, Caleb P. Martin, Bradley Martin, William C. Matthiessen, F. O. McAlpin, D. H. McCall, Jas. N.

McComb, J. J. McCready, N. L. McCurdy, Richard A. McKibbin, George Merritt, Douglas Metcalfe, John T., M.D. Meyer, C. Meyer, Oscar R. Meyer, Thomas Meyers, Col. T. B. Kinnicutt, Dr. Francis P. Milhau, Gen. J. J., M.D. Miller, D. S. Mitchell, Mrs. S. L. Moir, James Moller, Peter, Jr. Moore, Henderson Moore, W. H. H. Morgan, Geo. D. Morgan, Mrs. P. A. Morgan, Rev. Wm. F. Morris, Henry Lewis Morrison, Edward Morrison, George A. Mortimer, W. Y. Moulton, Arthur J. Moulton, Gilman S. Mowry, A. L. Liautard, A.F., M.D.V. S. Mulchakey, Rev. James Munoz, J. M. Munro, George Murphy, Henry M. Navarro, Juan N. Newman, A. G. Noyes, Wm. C. O'Connor, Thomas H. O'Donoghue, Joseph J. Olcott, F. P. Olmstead, Dwight H. Olyphant, R. M. Olyphant, Robert Osgood, Mrs. S. R. Otis, F. N., M.D. Ottendorfer, Oswald Owen, Mrs. Thomas J. Owens, Wm. W. Palmer, Cortlands Park, Joseph Parsons, John E. Parsons, Wm. H., Jr. Patterson, Edward Patterson, Thomas C. Peabody, Arthur J. Pell, John H. Pellew, Henry E. Penfold, Edmund Perkins, C. L. Peters, George A., M.D. Pettus, James T.

Peyser, Frederick M. Phelps, William Walter Phœnix, Phillips Pierrepont, Edwards Pike, Col Nicolas Pinkus, F. S. Platt, John R. Pool, Frank J. Potter, Howard Potts, Frederick A. Powell, Wilson M. Powers, William P. Purdy, Wm. Macneven Pyser, Frederick M. Ranger, Gustave Ranger, Louis Raynolds, C. T. Read, Daniel P. Reederer, Ludwig Remsen, William Rhoades, J. Harsen Riker, D. S. Riker, John L. Riker, Wm. J. Robbins, George A. Robbins, Howland Roberts, Miss Mary M. Rogers, Columbus B. Rogers, Henry H. Rolston, R. G Romaine, B. F. Rothschild, J. Rothschild, V. Henry Russell, Henry E. Rütten, August Rutter, Thomas Sabine, G. A., M.D. Sage, Russell Salisbury, Mrs. F. C. Sampson, Henry Sands, Andrew H. Sands, Samuel S. Satterlee, S. K. Saul, Julius Sayre, Lewis A., M.D. Schafer, Samuel M. Schafer, Simon Schaus, Wm Scheitlin, Edward Schley, Dr. J. M. Scholle, Jacob Schuyler, George L. Schuyler, Philip Schuyler, S. D. Schwendler, Fred. Scott, George S. Seligman, David J. Seligman, I. J.

Seligman, Isaac N. Sennett, George B. Shethar, Samuel Simpson, John B. Sinclair, John Sistare, Geo. K. Skidmore, William L. Sykes, William Sloan, Hon. Samuel Tailer, Edward N. Sloane, Thomas C. Smedberg, A. Smith, Alfred H. Smith, Charles S. Smith, Geo. W. Smith, John Jewell Smith, Jas. Rufus Smith, Roswell Smith, Rev. Cornelius B. Smith, William Alex. Soutter, Mrs. J. F. Spies, A. W. Spencer, Hon. James C. Starin, Hon. John H. Stearns, John Noble Stebbins, Jas. H. Steers, Edward P. Steers, Henry Stein, Abraham Stephens, Benjamin Stern, Benjamin Stern, Joseph Sterry, Geo. E Stetson, Geo. W. Stewart, David Stewart, Mrs Lispenard Stone, David M. Stone, Mrs. Georgiana C. Stone, Mason A. Storm, George

Storm, Thomas Strahan, John H. Strong, W. L. Sturgis, Appleton Sutherland, John Sutherland, John L. Tailer, W. H. Taintor, Charles M. Talcott, James Talmadge, Henry Tappan, Thos B. Taylor, Aug. C. Taylor, Mrs. Catharine A. Tefft, E. T. Tefft, Frank Tefft, Wm. E. Terbell, H. S. Terry, Rev. Roderick Thomas, T G., M.D. Thompson, W. Prall Thomson, James Thorn, William K. Thorne, Samuel Thurber, H. K. Tiemann, Peter C. Tillinghast, W. H. Titus, Erastus Tonnelé, John L. Toucey, J. M. Townsend, R. W. Tracy, J. Evarts Trevor, H. G. Trevor, John B. Trevor, Mrs. John B. Tucker, John C. Twombly, H. McK.

Ulmann, Joseph S. Ulmann, S. B. Van Brunt, Hon. C. H. Van Brunt, Cornelius Van Norden, Warner Van Rensselaer, K.  $\mathbf{Vermilye}$ ,  $\mathbf{J}$ .  $\mathbf{D}$ . Wales, Hon. Salem H. Wall, Michael W. Wallach, Antony Watson, John Weatherbee, Mrs. E. H. Webb, W. H. Weekes, John A. Weeks, Francis H. Weisse, Faneuil D., M.D. Wells, Wm. Henry Wenman, Hon. James F. Westervelt, J. C. Wheelock, Geo. G., M.D. Wheelock, Wm. A.  ${f Wheelock,\,Dr.\,W.\,E.}$ White, Horace Whitely, James Whiting, F. H. N. Whitney, Alfred R. Whyland, A. E. Wiechers, W. A. Willets, J. T. Wilson, John Wing, Chas. T. Wing, John D. Winthrop, Robert Witherbee, S. H. Wray, Mrs. M. A. Young, Jas. H. Young, Mason Zabriskie, Andrew C.



